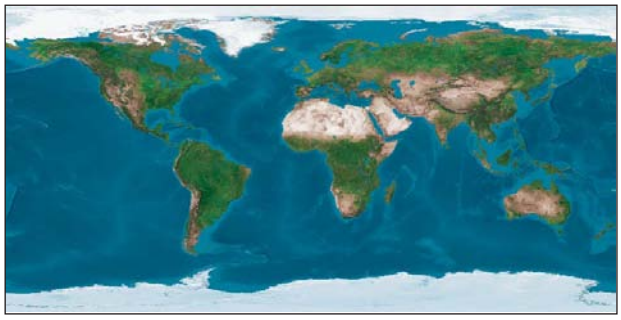
CONNECTIVITY SYSTEMS 2007

SIGNAMAX™
CONNECTIVITY SYSTEMS

Signamax LLC, a US based company, is uniquely focused on providing high-performance networks and complex distribution solutions for customers worldwide. We provide complete unified products for copper and fiber based network connections designed for increased performance, reliability and easy installation. Signamax components are also popular for their valued performance/price ratio.



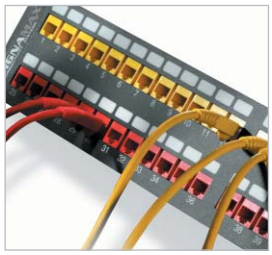
Signamax worldwide support

Our knowledgeable sales, technical support and engineering staff is dedicated to understand the requirements of our customers. With company headquarters in Washington DC and contracted distributors in 14 European countries and production in US, Europe and Asia, Signamax Connectivity Systems is uniquely positioned to deliver complete network solutions to our customers worldwide. Moreover, with our new central warehouse and sales center for Europe in Czech Republic we can now provide better service and support to all European partners and customers.

Product solutions

With **Signamax Connectivity Systems** you can get the right solution for comprehensive complete infrastructure.

Signamax Network Connectivity Systems line represents one of the industry's best products for high performance Ethernet, Fast Ethernet and Gigabit Ethernet components including interface cards, switches and media converters supporting both copper and fiber optic based networks. Signamax Media Converters allow mixed media and speeds in networks for optimum performance. Signamax managed and unmanaged Switches range from 5 to 24 ports with support for 10/100Base to 1000Base speeds with both copper and fiber terminations. Signamax Wireless Products are perfectly suitable for mobile users and allow building of high-performance wireless networks and links. Signamax wireless networks are interactively compatible and allow high speeds of 11/22/54/108 Mbps.



Our premise cabling product line includes patch cords, panels and network components for Category 5 Enhanced, Category 6/6a, Category 7 and fiber optic systems designed to exceed the latest ANSI/TIA/EIA, ISO/IEC and CENELEC specifications. We also supply distribution frames, data racks and cable management systems. All certified Signamax system installations are covered by 20 Years Registered System Warranty encompassing all system elements.

Standards and Quality

You will find that our products have better design, easier installation and bring unique level of performace and reliability to your network than most suppliers can offer. They are designed for the most demanding applications engineered to meet stringent standards and specifications. Each manufactured product has been tested to comply with the standards of organizations such as ANSI/TIA/EIA, ISO/IEC, CENELEC and IEEE. Signamax network and complex solutions are certified by independent laboratories and backed up by long-term performance warrantees that keep peace in your mind.

RoHS

We, here at Signamax, care about the environment we live in.
Therefore our products comply with the RoHS directive (2002/95/EC) valid from July 1st, 2006.

Visit the **www.signamax-eu.com** web page to find your local Signamax representative.

SIGNAMAX™
CONNECTIVITY SYSTEMS

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Premise Connectivity Systems

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Keeping Your World

In today's technology driven environment, the backbone of your organization is your network—keeping you connected to staff, customers, suppliers, and the world at large. To run a successful enterprise, you need a network that is reliable, fast, and ready to accommodate the inevitable growth and change you will experience. And the company that can deliver network solutions that is up to those challenges is Signamax Connectivity Systems.

The Signamax mission is to provide for your total end-to-end network connectivity needs. As your single source for the full range of products needed for reliable connectivity, Signamax delivers the comprehensive Network Connectivity Systems product line offering a wide range of high-performance and cost effective active components for Ethernet, Fast Ethernet, and Gigabit Ethernet applications.

Our media converters enable mixed media and speeds on a network for optimum performance. Signamax managed and unmanaged switches are offered in configurations from 5 to 24 ports with support of 10/100Base to 1000Base speeds with both copper and fiber terminations. Signamax wireless products allow building of high-performance wireless networks and links, which complement and replace standard cabling infrastructure and allow high speeds of 11/22/54/108 Mbps in 2.4 GHz as well as in 5 GHz band.

Connected

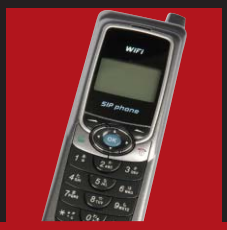
The Signamax Premise Connectivity System enables you to build a network infrastructure that can accommodate all your network applications. It is comprised of wiring solutions for your equipment room, distribution cabling and cross-connects to your work-areas with a wide-range of high-performance copper & fiber-optic components, all designed to work together as a system. From the smallest project to the largest, enterprise-wide fiber to the desktop installation, Signamax has the range of network solutions you will need to support your business.

You will find that our products are designed better, install with greater ease and bring an unparalleled level of performance and reliability to your network. Our systems are designed for the most demanding applications, engineered to meet stringent standards and specifications. Each product is manufactured to the highest quality standards, then tested to ensure that it exceeds the application standards, such as TIA/EIA, ISO/IEC and CENELEC. The strength and integrity of our Premise Connectivity System is backed by the skills and experience of our technical staff.

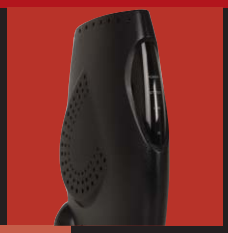
At Signamax, we are dedicated to making your business run more efficiently, with connectivity systems backed by long-term performance warrantees that provide the peace of mind you want when selecting systems to support your network. So, if you want to keep your world connected, choose the supplier that can make it happen, Signamax Connectivity Systems.

NETWORK CONNECTIVITY SYSTEMS

SIGNAMAX
CONNECTIVITY SYSTEMS



VoIP



A

- IP Phones
- IP Camera
- IP SetTopBox
- IP DSLAM
- VoIP Gateway
- VoIP Gateway w. SIP Proxy Server
- VoIP Gateway w. H323 Gatekeeper
- Modular High Density VoIP Gateway

IP Phones

Signamax, delivers stable, low-cost and fully featured IP telephones to customers.

065-9013 Signamax VoIP SIP Phone conforms to SIP standard and support ADSL, Cable Modem, LAN and WAN, ideal for both enterprise and home users. Two 10/100BaseT embedded switch/hub RJ-45 ports allow connect to office LAN and PC on your table. It is easily interface with ADSL/Cable Modem that is provided by ITSP, ISP or Carrier company to provide VoIP services to residential and SOHO application.

065-9011 is a full-featured IP-based telephone set for home telephony via Ethernet base communication. It supports SIP RFC3261 protocol. Two 10/100BaseT embedded switch/hub RJ-45 ports allow connect to office LAN and PC on your table. It is easily interface with ADSL/Cable Modem that is provided by ITSP, ISP or Carrier company to provide VoIP services to residential and SOHO application.

FUNCTIONS

- **Status Indication: Talk & Idle & Hold & Unregistered;**
- **200 Names and Numbers Phonebook: 2 Numbers per Contact;**
- **Calling Number with Phonebook Name Matching;**
- **Call Log: Outgoing, Answered and Missed Calls (Each 20 Entries);**
- **Call Timer;**
- **Speed Dial: 10 Numbers Max;**
- **Redial;**
- **Incoming Call with Number and Name Displaying;**
- **Call Transfer: Attended & Blind;**
- **Call Forwarding: Unconditional & No Answer & on Busy;**
- **Message Waiting Indicator;**
- **Do Not Disturb;**
- **Configurable Ring Tones;**
- **Adjustable Ring Volume;**
- **Full Duplex Speakerphone;**
- **Mute;**
- **Shared Lines;**
- **Multiple Lines;**
- **Multiple Proxies;**
- **Music on Hold;**
- **Backup Setting;**
- **GMT Setting;**
- **Date and Time display (Manual / SNTP);**
- **Optional: Digital answering machine.**

065-9013

IP Phones

PART NO.	DESCRIPTION
065-9005	SIP WiFi IP Phone (10 IP address)
065-9010	IP Phone solution provides telephone call over an IP-Network
065-9011	IP Phone Solution Provides Telephone call over an IP-Network
065-9012	Smart Multi-Calls IP Phone Solution
065-9013	Signamax VoIP SIP Phone

SPECIFICATIONS

065-9005

PERFORMANCE CHARACTERISTICS
- **Call Control Protocol:** SIP (RFC2543/RFC3261)
- **Codec:** G.711 / G.729a
- **Battery:** 3.6 V, 1,350 mAhr Lithium
- **Battery Life:** 3.2 hr talk time, 24 – 26 hours standby
- **Wireless Access Protocol:** CSMA/CA
- **Frequency Range:** 2.4 – 2.497 GHz
- **Number of Channel:** Up to 14 channels
- **Data Rate:** 802.11b Direct Sequence Rate Scaling at 1, 2, 5.5, and 11 Mbps
- **Range RF output:** 30 mW peak
- **Outdoor:** 1,000 +ft./300 +m
- **Indoor:** Up to 295 ft./75,5 m

PHYSICAL CHARACTERISTICS
- **Display LCD:** 112 x 64 graphic mode, w/backlight
- **Notification:** Ringer/vibration
- **Port:** Ear-phone jack, mini-USB port

NETWORK CHARACTERISTICS
- **Protocol:** TCP/IP; DHCP; IEEE 802.11b protocol
- **Security:** Wired Equivalent Privacy (WEP) 64 and 128 bit
- **Accessories:** AC adapter with mini-USB cable
- **Regulatory:** EMI/RFI: FCC Class B, CE

065-9005

065-9010

APPLICABLE STANDARDS
- **WAN interface:** One RJ-45 10/100BaseT
- **LAN interface:** One RJ-45 10/100BaseT
- **PSTN interface:** RJ-11
- **Power adapter:** 9V DC
- **LCD Display:** 24 characters, 2 lines
- **Keys:** Function 8, Memory 10, Menu control 4
- **Hand free Speaker phone:** with Echo cancellation
- **Indicators:** 4LED (Speaker, Message, PSTN, Mute, Hold)
- **Network connect:** Fix IP, DHCP, PPPoE
- **Link Mode (SIP):** Proxi mode
- **Link Mode (H323):** Peer to peer, Gatekeeper mode, DDNS mode
- **Protocol:** H323 (V4) or SIP (RFC3216)
- **Audio Codec support:** G.711U, G.711A, G.723.1, G.729, G.729A
- **QoS support:** VAD, DiffServ, WLAN (802.1p/q)
- **Telephony features:** Mute, Forward, Hold, Redial (SIP and H450), Transfer
- **Security support:** (H323), H235
- **H.245 Support (H323):** Support Fast Start and H245 Tunneling
- **Configure management:** LCD Front panel, Web Browser, Telnet, TFTP/FTP, Welltech's EMS
- **DTFM (H323):** In-band, H245 out-band DTFM generation/detection, RFC 2833
- **DTMF (SIP):** In-band, RFC 2833 out-band DTMF generation/detection
- **Power fault support function:** PSTN Line Backup

ENVIRONMENT
- **Operating Temp:** 5° – 40°C
- **Storage Temp:** -20° – 65°C
- **Humidity:** 10-90% non-condensing, operating and non-operating/storage
- **Dimensions (WxHxD)** 215 x 71 x 198 mm
- **Weight:** 834 g

CERTIFICATIONS
FCC Part 15 Class B, CE Class B, 3C

065-9011

065-9011

APPLICABLE STANDARDS
- **WAN interface:** One RJ-45 10/100BaseT
- **LAN interface:** One RJ-45 10/100BaseT
- **Power adapter:** 5V DC
- **LCD Display:** 13 characters, 2 lines
- **Keys:** Function 4, Memory 5, Menu control 4
- **Hand free Speaker phone:** with Echo cancellation
- **Network connect:** Fix IP, DHCP, PPPoE
- **Link Mode (SIP):** Proxi mode and Peer to peer mode
- **Link Mode (H323):** Peer to peer, Gatekeeper mode, DDNS mode
- **Protocol:** SIP (RFC3216)
- **Audio Codec support:** G.711U, G.711A, G.723.1, G.729, G.729A
- **QoS support:** WLAN (802.1p/q)
- **Telephony features:** Mute, forward, Hold, Redial, Transfer
- **Configure management:** LCD Front panel Web Browser, Telnet, Welltech's EMS
- **DTMF (SIP):** In-band, RFC 2833 out-band DTMF generation/detection

ENVIRONMENT
- **Operating Temp:** 0° – 40°C
- **Storage Temp:** -10° – 60°C
- **Humidity:** 10-90% non-condensing, operating and non-operating/storage
- **Dimensions (WxHxD):** 200 x 79 x 210 mm
- **Weight:** 830 g

CERTIFICATIONS
FCC Part 15 Class B, CE Class B

065-9012

TECHNICAL SPECIFICATION
Two 10/100 Base-T RJ-45 Ethernet port with Switch inside
LCD Configuration Password Protection
2*16 character LCD display
LCD Display Time, Date, Caller ID, Call Duration

MANAGEMENT FEATURES
Software Upgrade: TFTP/FTP download
Easy ways for system configuration
LCD Front Panel, Web Browser, TELNET

AUDIO FEATURES
Comfort noise generation (CNG), voice activity detection (VAD)
Acoustic Echo Cancellation
DTMF detection and generation
Codec support G.711A/μ, G.729, G.729B, G.723.1, Jitter buffer control
DMTF: In-band, RFC 2833, SIP INFO

CERTIFICATION
CE, FCC (Proceeding)

POWER SUPPLY
- **Input:** AC 110 – 220V
- **Output:** DC 9V/1A

OPERATION ENVIRONMENT
- **Humidity:** 10-90% (Non-condensing)
- **Operational Temperature:** 0° – 40°C

STORAGE ENVIRONMENT
- **Humidity:** 10-90% (Non-condensing)
- **Storage Temperature:** -10° – 50°C

065-9013

PROTOCOLS
SIP: RFC3261; DTMF: inband, RFC2833, SIP Info;
RTP: RFC1889; RTCP: RFC3605, RFC3611;
DNS: RFC1035; FTP: RFC959;
TFTP: RFC1350; HTTP: RFC1945, RFC2616;
SNTP: RFC1361, RFC2030; SNMP: RFC1157;
DHCP: RFC2131, RFC2132; PPPoE: RFC2516;
NAT: RFC1631, RFC2663

VOICE QUALITY
VAD – Voice Activity Detection;
CNG – Comfort-Noise Generation;
AEC – Acoustic Echo Cancellation;
QoS – Quality of Service;
Jitter Buffer (optional or dependent on IP telephone system);
Codec Support – G.711, G.723.1, G.729, G.722.

SECURITY
Encrypted (AES/DES) Voice Communication
Password Protected for Configuration
MD5 for SIP Authentication

MAINTENANCE
Web Browser Administration via Built-in Web Server, Auto-Upgradable via HTTP/FTP

ENVIRONMENT
- **Operating Temperature:** 0° – 50°C
- **Storage Temperature:** -10° – 60°C
- **Relative Humidity:** 10-90% (Non-condensing)

BOX CONTENTS
Signamax VoIP Phone, Power adaptor, User's Manual, Quick Installation Guide, Optional accessories: RJ-45 Ethernet Cable, Headset, CD

IP Camera

Signamax 065-9001 Internet Camera and 065-9003 Internet Wireless Camera, a camera device that can be connected directly to an Ethernet or Fast Ethernet network also supported by the wireless transmission based on the IEEE 802.11g standard 065-9003. Compared to the conventional PC Camera, the Internet Camera features a built-in CPU and web-based solutions that can provide a cost-effective solution to transmit real-time high-quality video images and sounds for monitoring. This Internet Camera can be managed remotely, accessed and controlled from any PC/Notebook over the Intranet or Internet via a web browser. The simple installation procedures and webbased interface allow you to integrate it into your network easily.With comprehensive applications supported, this Signamax Internet Camera is your best solution for remote monitor, high quality, and high performance video images.

065-9003

IP Camera

PART NO.	DESCRIPTION
065-9001	LAN IP Camera
065-9003	Wireless IP Camera

FEATURES

- **Simple to use just plug and view the image from the Internet Camera with a valid IP address.**
- **Embedded Web UI configuration with Administrator ID/Password protection.**
- **Secured User Management by ID and Password.**
- **Allows remote access from web browser for live image viewing.**
- **Supports TCP/IP networking, UPnP, SMTP e-mail, HTTP and other Internet related protocols.**
- **Powerful application software for image capture and video recording:**
  - **Multiple Video Window Simultaneously,**
  - **Motion Detection with alert and E-mail sending,**
  - **Recording triggered by Motion Detection, Schedule, and Manual,**
  - **Single Frame Image Snap shot.**
- **Digital Zoom and Mirror function supported.**
- **Support 10/BaseT/100BaseTX Ethernet with Auto-MDI/MDIX.**

SPECIFICATIONS

065-9001

IMAGE SENSOR
Sensor resolution: 640 x 480 pixel
Sensor: Color CMOS Sensor
Lens: f: 6.0 mm, F: 1.8

IMAGE (VIDEO SETTING)
JPEG still image compression
Image frame rate: QCIF@30fps, 25fps@CIF, 10fps@VGA
Compression Rate selection: 5 levels, very low, low, middle, high, very high
Frame rate setting: 1, 5, 7, 15, 20, auto (depends on the video format)
Video resolution: 160 x 120, 320 x 240, 640 x 480

Automatic Gain control	Yes
Automatic Exposure	Yes
Automatic White Balance	Yes
Digital Zoom	Yes
Upside down and Mirror	Yes

COMMUNICATION
LAN port: RJ-45, 10/100M auto-sensed, AUTO-MDIX
Communication protocol: HTTP, FTP, TCP/IP, UDP, ARP, ICMP, BOOTP, DHCP, PPPoE, SMTP, DDNS, UPnP

SYSTEM
CPU: RDC R2880
RAM: 8 MByte
Flash ROM: 2 MByte
OS: RTOS

SOFTWARE
Browser: Internet Explorer 5.0 or above, Netscape 6.0 or above
Application Software: IPview application software
OS supported: Microsoft Windows 98 SE, ME, NT 4.0, 2000, XP

FEATURES
System: Server Name, Location, Admin ID and Password
LED Control: Normal/OFF/Dummy
TCP/IP
Static IP Address: IP Address, Subnet Mask, Default Gateway
Dynamic IP Address: DHCP, BOOTP, PPPoE (Service Name, User ID, User Password)
Primary DNS Address, Secondary DNS Address
Users
Add User: 64 users account maximum, User Name, User Password, Delete User
Date/Time Setting
Date: Year/Month/Day (Default: 2001:10:01)
Time: Hour/Minute/Second (Default: 08:30:00)
NTP Protocol, NTP Server Address, Time Zone
Image
Compressing Rate: 5 levels, very low/low/medium/high/very high
Frame Rate: 1/5/7/15/20/Auto
Video Resolution: 160 x 120, 320 x 240/640 x 480

Brightness Control	Yes
Contrast Control	Yes
Saturation Control	Yes
Light Frequency	50/60 Hz
Digital Zoom	Yes
Upside down and Mirror	Yes
Anti-Flicker	Yes

Upload configuration
FTP Server, Time Schedule, Manual Operation
Dynamic DNS
Service, User Name, Password, Domain Name
Others
Reset, Factory Reset to Default setting
Web Browser Supported
Internet Explorer 5.0 or above
Netscape 6.0 or above

POWER
Power: DC 5V, switching type power supply
Power consumption: 3.5 Watt (700 mA x 5V)

LED
Power LED: Blue color
Activity LED: Orange color

OPERATING ENVIRONMENT
Operating temperature: 5° – 40°C
Storage temperature: 25° – 50°C
Humidity: 5-95% non-condensing

EMI
FCC / CE / VCCI class B

IP Set Top Box MPEG-4

065-9021 is an IP STB fully compatible with ISMA standard. It is widely used in communities, hotels and broadband environment for receiving MPEG-4 liveprogram and VOD. Meanwhile, with the support of head-end system, 065-9021 can be used for video shopping, network games, support EPG and so on.

FUNCTIONS

- **Media On demand:** Plays the video program in the playlist of EPG, supports play/stop/ pause/fast forwarding and backward/mute/volume up/volume down/Left and Right Audio channel/Stereo. It supports progress indication as well. It can also plays MP3 program in the play list of EPG supports play, stop, pause, mute, volume up, volume down and progress indication.
- **Multicast program:** Gets the channel information from the EPG and supports channel lineup. It does not support fast forwarding, fast backward, and pause. It supports mute, volume up, volume down, left and right Audio channels and stereo.
- **WEB Browsing:** Browses the Internet web pages of HTML 4.0 and Javascript 1.5 with the embedded browser.
- **Electronic Program Guide:** Enters the main EPG screen of the operator. Gets the information of the program and the playlist. Supports EPG dynamic upgrade, VOD, music on demand, picture viewing and network games.
- **Parameter configuration and display:** Supports PPPoE dialing through STB (modem bridge connection mode). Supports statically and dynamically obtain IP address. Configures the network parameter such as user name, password, DNS server, subnet mask, gateway and static IP address. Configures HTTP upgrade server, default EPG server and default URL address. Modifies Password. Configures TV mode. Displays product information. Configures NTP server address. Configures Time Zone.

FEATURES

- **Video Format: MPEG-4 SP/ASP Video Decoding;**
- **Audio Formats: MP3 and AAC;**
- **Picture Formats: JPEG, BMP, PNG and GIF animated picture formats;**
- **Network Interfaces: 1x10/100MBase-T RJ45;**
- **Browser: Embedded browser, supports HTML network surfing;**
- **Supports IGMP Multicast, which is capable of Receiving channelized of multicast programs;**
- **Transport Standard: Open International Streaming Standard ISMA 1.0/1.1 and TS stream;**
- **Games: JavaScript based network games;**
- **VOD: Video/Audio programs on demand.**

IP Set Top Box

PART NO.	DESCRIPTION
065-9021	Signamax IP Set Top Box – MPEG-4
065-9022	Signamax IP Set Top Box MPEG2
065-9023	Signamax IP Set Top Box MPEG2&4

SPECIFICATIONS

Model 065-9021

MEDIA FORMATS
Video Formats: MPEG-4 ISO/IEC 14496-2 Advance simple profile without GMC and QPEL
Audio Formats: MP3 and AAC
Picture Formats: JPEF and GIF static pictures

NETWORK PROTOCOLS
HTTP 1.0/1.1, DHCP, NTP1.1 and IGMPV1/V2., Supports IPv4

STREAMING PROTOCOLS
Internet Streaming Media Alliance (ISMA) Implementation Specification version 1.0, including the following: Transport Protocols:
RTP: A Transport Protocol for Real-Time Applications, IETF RFC 1889;
RTP Profile for Audio and Video Conferences with Minimal Control, IETF RFC 1890;
Transmission Control Protocol, IETF RFC793; UDP: User Datagram Protocol IETF RFC768.
RTP Payload formats: RTP Payload Format for Transport of MPEG-4 Elementary Streams, IETF RFC 3640
Content distribution: MPEG-4 MP4 Format – ISO/IEC 14496-1:2000(E)
Media controls: Real Time Streaming Protocol (RTSP), IETF RFC 2326
Media Announce: SDP: Session Description Protocol, IETF RFC2327

TECHNICAL SPECIFICATIONS
Video: MPEG-4 ASP, SP, 4:3 and 16:9-aspect ratio
NTSC/PAL TV signal, 720 x 480 or 720 x 576 SD output
Audio: MP3, AAC
Sample Rate: 32, 44.1, 48, 88.2 and 96 KHz
Picture formats: GIF and JPEG
OSD: 256 colors, 16 level alpha blending

ACCESSORIES
IPSTB Box: 1
Audio/Vido line: 1 suit
Net line: 1
Power Supply: 1
User Instruction: 1
Remote Control: 1, Batteries: 1 pair

Model 065-9022

VIDEO DECODING
Decoding Standard: ISO/IEC 13818-2 MPEG-2 MP@ML
Video Format: PAL/NTSC/SECAM
Aspect Ratio: 4:3, 16: 9
Output Definition: 720 x 480 or 720 x 576 SD

AUDIO DECODING
Decoding Standards: ISO/IEC 13818-3
Decoding Formats: MPEG-1, 2, 3
Sample Rates: 32, 44.1, 22.05, 24 and 48 KHz
Output Modes: Single and dual audio channels

PICTURE FORMAT
Static pictures: JPEG, BMP, PNG
Animated picture: GIF

PROTOCOLS SUPPORTED
IP protocol: IP v4
Network Protocols: HTTP 1.0/1.1, DHCP, IGMP v1/v2, TCP/IP, DNS, PPPoE and NTP
Streaming Media Protocols: RTP/RTCP/RTSP/SDP

INTERFACES
Input Interface: RJ45
Output Interfaces: RCA, S-Video
Network Interface: 1x10/100M Base-T
IR Interface: NEC

OSD
Color: 32-bit true color
Alpha blending: 256 levels

THIRD PARTY SOFTWARE SUPPORTED
Browser: Ant or iPanel
Games: JavaScript games

SYSTEM MAINTENANCE
Upgrade: Manual/Automatic application software upgrade
System Configuration: Manual/Automatic configuration

Model 065-9023

MEDIA FORMATS
Video Formats: MPEG-4 ISO/IEC 14496-2 Advance simple profile without GMC and QPEL
Audio Formats: MP3 and AAC
Picture Formats: JPEF and GIF static pictures

VIDEO DECODING
Decoding Standards: ISO/IEC 13818-2 MPEG-2 MP@ML, ISO/IEC 14496-10
MPEG-4 MP@L3
Video Format: PAL/NTSC
Aspect Ratio: 4:3, 16: 9
Output Definition: 720 x 480 or 720 x 576 SD

AUDIO DECODING
Decoding Standards: ISO/IEC 13818-3, ATSC A/52 and ISO/IEC 14496-3
Decoding Formats: MPEG Layer1/2/3, AC3, MPEG-2/4 AAC (ADTS)
Sample Rate: 32, 44.1, 22.05, 24 and 48 KHz

PICTURE FORMAT
Static pictures: JPEG, BMP, PNG
Animated picture: GIF

PROTOCOLS SUPPORTED
IP protocol: IP v4
Network Protocols: HTTP 1.0/1.1, DHCP, IGMP v1/v2, TCP/IP, DNS, SNMP v2, PPPoE and NTP
Streaming Media Protocols: RTP/RTCP/RTSP/SDP

INTERFACES
Input Interface: RJ45
Output Interfaces: RCA S-Video, SCART, and S/P DIF
Network Interface: 1x10/100M Base-T
IR Interface: NEC/RC5

OSD
Color: 32-bit true color
Alpha blending: 256 levels

THIRD PARTY SOFTWARE SUPPORTED
Browser: Ant or iPanel
Middleware: International leading middleware
Games: JavaScript games

SYSTEM MAINTENANCE
Upgrade: Manual/Automatic application software upgrade
System Configuration: Manual/Automatic configuration

IP DSLAM

065-9074/8 Series IP DSLAM has 24/48 ports subscriber line interface with POTS splitter built-in achieved 1U height space saving design. 065-9074/8 Series came with unique bandwidth management, flow prioritization and data flow security control key feature. 065-9074/8 Series provided QoS (quality of service) capability to meet triple play (voice, data, video) requirement, support ADSL/ADSL2/ADSL2+/G.SHDSL interface, stackable up to 8 065-9074/8 can be cascaded. No matters in features, performance, and cost wise, 065-9074/78 Series is the best choice for NSP (network service provider).

IP DSLAM

PART NO.	DESCRIPTION
065-9074	Signamax IP DSLAM ADSL/ADSL2+, 24 ports, 2x1000Base-TX Uplink
065-9078	Signamax IP DSLAM, ADSL/ADSL2+, 48 ports, 2x1000BaseTX Uplink
065-9081	Signamax IP DSLAM Uplink Module 1x100BaseTX + 2x1000Base TX
065-9082	Signamax IP DSLAM Uplink Module 1x100BaseTX + 1x1000BaseTX + 1x1000LX
065-9083	Signamax IP DSLAM Uplink Module 1x100BaseTX + 1x1000BaseTX + 1x1000LX
065-9094	Signamax IP DSLAM G.SHDSL.bis CPE unit, 4port switch, 4 wires
065-9098	Signamax IP DSLAM G.SHDSL.bis CPE unit, 4port switch, 8wires

SPECIFICATIONS

SYSTEM FEATURES
48/24 ports interface ADSL/2/2+ subscriber interface with built-in POTS Splitter
48/24 ports G.SHDSL/G.SHDSL.bis subscriber interface (optional)
One 100BaseT MGNT+ Two 1000BaseT or one Giga LX Uplink/Subtend Interface optional
Stackable up to 8 units to be cascaded
Centronic 50 pin connector for line in and out
8 VCs per xDSL port
128 MAC address per xDSL port
48*128 MAC address
Packet size 64 byte to 1,522 byte
PPPoE Intermediate Agent
DHCP Relay Agent
Inter-Working: IPOA to IPOE Trunneling, PPPoA to PPPoE inter-working
Multiple mechanisms of prioritizing traffic

MULTICAST
1. Up to 256 multicast addresses
2. IGMP v1, v2, v3
3. Multicast VLAN mapping:
Independent VLAN multicast (IVM), Shared VLAN Multicast (SVM)
4. Handle PPPoE Encapsulated IGMP packets

BRIDGING
1. Ethernet Bridging - Broadcast, Flooding/Dropping
2. VLAN bridging: 512 VLAN support, Static VLAN, VLAN Stacking, VLAN Trunking

SECURITY
Throtting Control, Sticky Bridge Ports
MAC Adress Access Control List, IP Adress Access Control List

QoS
Input Rate Limiting (IRL) on a per-AAL5 interface
Output Rate Limiting (ORL) on a per ATM-port and Ethernet basis Rate Limiting

ADSL/ADSL2/ADSL2+ INTERFACE
ADSL/ADSL2/ADSL2+: Downstream DMT data rate 32 Kb/s up to 25 Mbps;
Upstream DMT data rate 32 Kb/s up to 1 Mbps
Comply with ITU G.992.1 (G.DMT); G.DMT.bis; ITU G.992.2 (G.Lite); ANSI T1.413 issue 2; ITU G.994.1 (G.handshake) for ADSL, G.992.3 for ADSL2, and G.992.5 for ADSL2+
Extended power management capabilities to optimize power consumption for each application
Distance up to 18 kft

G.SHDSL/G.SHDSL.BIS INTERFACE
G.SHDSL: Symmetric transmission rate up to 2.3 Mbps (2-wire)
G.SHDSL.bis: Symmetric transmission rate up to 5.7 Mbps (2-wire)
Comply with G.991.2

MANAGEMENT
Microsoft windows based GUI MSE
Local RS-232 CLI and Ethernet SNMP/TELNET management
Remote in-band SNMP/TELNET management
Firmware upgradeable via FTP or TFTP
Support SNMP v1, v2c

PROTOCOLS SUPPORT
STP; IGMP snooping, GMRP, GVRP, LACP, SNMP/UDP/IP/MAC/Ethernet

OPERATING REQUIREMENTS
Operating Temperature: 0° – 50 °C
Storage Temperature: -30° – 70 °C
Operating Humidity: 5-90% RH non-condensing
Dimension (D x W x H): 400 x 440 x 44 mm
Weight: 6.8 kg
AC power model: 90 – 240 VAC, 50 – 60 Hz
DC power model: -42 to -56 VDC
Power Consumption: 100 Watts

UPLINK UPGRADEABLE MODULE INTERFACE
1*1000BaseT-MGNT+2*1000BaseT
1*1000BaseT-MGNT+1*1000BaseT+
1*1000Fx (SX/LX/LH/ZX)

VoIP Gateway

065-9404s

Signamax 065-9051 is a one-port telephone gateway with IP sharing function. There is no necessary to set up any extra device that the embedded NAT function can allow user's PC to gallop on internet directly. Further more users can take advantage of many new and exciting IP telephony applications by connecting analog phone to this gateway. It is standard-based communication device that deliver true, next generation voice-over-IP (VoIP) application to residences and small-to medium enterprise in internet communication environment.

The 065-9200S/065-9400S Series VoIP Gateway is fully both H.323 and SIP standard compliant residential gateway that provides a total solution for integrating voice-data network and PSTN. By simple installation, this revolutionary compact voice over IP (VoIP) gateway could be configured as a 2/4 FXS/FXO VoIP Gateway which provides voice connectivity over the IP network and to the Public Switched Telephone Network (PSTN). Gateway is equipped with a four port Ethernet switch and built-in NAT router function that provides Internet access using only one IP address. Besides, it provides high voice quality and optimized packet voice streaming over managed and public (Internet) IP networks. The Signamax 065-9800 Series VoIP Gateway is fully H.323/SIP standard compliant residential gateway that provides a total solution for integrating voice-data network and PSTN. By simple installation, this revolutionary compact voice over IP (VoIP) gateway could be configured as 8 channels high density FXS/FXO VoIP Gateway which provides voice connectivity over the IP network and to the Public Switched Telephone Network (PSTN). The Gateway is equipped NAT router function that provides Internet access using only one IP address. Besides, it provides high voice quality and optimized packet voice streaming over managed and public (Internet) IP networks.

065-9051

065-9401s

SPECIFICATIONS

RJ-45
LAN 1 - 4x for PC connection

RJ-11 PHYSICAL INTERFACE
up to 8x FXo/FXs voice ports

POWER
Voltage : DC 12V
Current : 1A

LED
WAN: WAN link status indication
LAN: LAN link status indication
Status: VoIP status indication
Power: Power status indication
Phone: Analog phone status indication 5

PROTOCOL
SIP RFC 3261, Outbound proxy, Support IP or domain name for primary and secondary proxy address and auto switching is enabled.

CALL FUNCTION
Call Forwarding, Call Transfer, Un-connection LED alarm, Call Hold, Calling Number Delivery

VOICE FEATURE
Voice codec, G.711 (A-law/μ-law), G.723.1, G.729, G.711 FAX pass-through mode, RTP / RTCP, Echo Cancellation G.168, Silence Detection/Suppression, Comfort Noise Generation, DTMF Detection/Generation, Call Tone Generation

NETWORK
Network connection, PPPoE (RFC 2516) a. Account / password can be saved, b. Auto reconnection after disconnection, DHCP client (for WAN port), Static IP, DHCP Server and NAT, Bridge for LAN interface, QoS, ToS, Diff Serv, Support SNTP

SYSTEM MANAGEMENT
Support Web, Telnet for remote control, Username / Password for login to make configuration

VoIP Gateway

PART NO.	DESCRIPTION
065-9051	VoIP Gateway 1xWAN, 1xLAN, 1xFxo
065-9200s	VoIP Gateway 1xWAN, 4xLAN, 2xFxs
065-9201s	VoIP Gateway 1xWAN, 4xLAN, 1xFxs, 1xFxo
065-9200s	VoIP Gateway, 1xWAN, 4xLAN, 2xFXo
065-9400s	VoIP Gateway 1xWAN, 4xLAN, 4xFxs
065-9401s	VoIP Gateway 1xWAN, 4xLAN, 3xFxs, 1xFxo
065-9402s	VoIP Gateway 1xWAN, 4xLAN, 2xFxs, 2xFxo
065-9404s	VoIP Gateway 1xWAN, 4xLAN, 4xFxo
065-9800s	VoIP Gateway 1xWAN, 4xLAN, 8xFxs
065-9802s	VoIP Gateway 1xWAN, 4xLAN, 6xFxs, 2xFxo
065-9804s	VoIP Gateway 1xWAN, 4xLAN, 4xFxs, 4xFxo
065-9806s	VoIP Gateway 1xWAN, 4xLAN, 2xFxs, 6xFxo
065-9808s	VoIP Gateway 1xWAN, 4xLAN, 8xFxo

FIRMWARE UPDATE / UPGRADING
TFTP / FTP / Web remote update

ENVIRONMENT
AC Power, 110 – 220V ± 10V, 60Hz ± 3Hz, Environment,
Temprature: 0° – 40°C,
Humidity: 10-90% RH

CERTIFICATION
FCC Part 15, CE Class B, LVD

VoIP Gateway w. SIP Proxy Server

This Signamax 065-9400SVR and 065-9200SVR Series SIP Proxy Server is designed as an embedded-based platform. It performs internet telephony services, like registration status, call detail record and security registration policy. The Signamax 065-9400SVR provides a comprehensive, powerful platform for delivering IP telephony applications based on the Session Initiation Protocol (SIP). It also build in VoIP 2/4 voice channels Gateway which support SIP signal protocols.

VoIP Gateway w. SIP Proxy Server

PART NO.	DESCRIPTION
065-9200svr	VoIP Gateway w. SIP Proxy Server 1xWAN, 4xLAN, 2xFxs
065-9201svr	VoIP Gateway w. SIP Proxy Server 1xWAN, 4xLAN, 1xFxs,1xFxo
065-9202svr	VoIP Gateway w. SIP Proxy Server, 1xWAN,4xLAN,2xFXo
065-9400svr	VoIP Gateway w. SIP Proxy Server 1xWAN, 4xLAN, 4xFxs
065-9401svr	VoIP Gateway w. SIP Proxy Server 1xWAN, 4xLAN, 3xFxs,1xFxo
065-9402svr	VoIP Gateway w. SIP Proxy Server 1xWAN, 4xLAN, 2xFxs,2xFxo
065-9404svr	VoIP Gateway w. SIP Proxy Server 1xWAN, 4xLAN, 4xFxo

VoIP Gateway w. H.323 Gatekeeper

This 065-9200SK/065-9400SK Gatekeeper is designed as an embedded-based platform. It performs internet telephony services, like registration, call detail record and security registration policy. Besides Gatekeeper function, 065-9200SK/065-9400SK also build in VoIP Gateway which both support H.323 and SIP signal protocols. A variety of H.323 entities including IP phone, gateway, soft phones as well as different vendor's Gatekeepers have been well tested with.

VoIP Gateway w. H.323 Gatekeeper

PART NO.	DESCRIPTION
065-9200sk	VoIP Gateway w. H.323 Gatekeeper 1xWAN,4xLAN, 2xFxs
065-9201sk	VoIP Gateway w. H.323 Gatekeeper 1xWAN,4xLAN, 1xFxs,1xFxo
065-9202sk	VoIP Gateway w. H323 Gatekeeper, 1xWAN,4xLAN,2xFXo
065-9400sk	VoIP Gateway w. H.323 Gatekeeper 1xWAN,4xLAN, 4xFxs
065-9401sk	VoIP Gateway w. H.323 Gatekeeper 1xWAN,4xLAN, 3xFxs,1xFxo
065-9402sk	VoIP Gateway w. H.323 Gatekeeper 1xWAN,4xLAN, 2xFxs,2xFxo
065-9404sk	VoIP Gateway w. H.323 Gatekeeper 1xWAN,4xLAN, 4xFxo

SPECIFICATIONS

All models svr/sk

TELEPHONY SPECIFICATION
- Voice Codec: G.711, G.729 AB, G.723 (6.3 Kbps / 5.3 Kbps)
- FAX support: T.30 / T.38
- Echo Cancellation: G.165/G168
- FXO Caller ID detection: DTMF and FSK
- Adjustable AC Termination Impedance:
- 600 / 900 ohm and complex Impedance
- Life-Line support (IP/ power failure over relay)
- Polarity Reversal: Type I and Type II

IP SPECFICATIONS
- H.323 v2/v3/v4 and SIP (RFC 3261) ,RAS, SDP (RFC 2327),
- Symmetric RTP, STUN (RFC3489), ENUM (RFC 2916).
- LAN: NAT, Virtual Server, DHCP Server
- WAN: PPPoE client, DHCP client, Fix IP Address, DDNS client
- Network Address Translation: Providing build-in NAT router function.
- Smart QoS: Guarantee the voice bandwidth

CALL FEATURES
- Voice channels status display;Direct Call Mode: peer to peer call;
- Register Call Mode: register to H.323 Gatekeeper or
- SIP Proxy Server
- Adjustable volume: -9 – 9 db
- Silence Compression, Auto Dial for speed, Dynamic Jitter Buffer

CONFIGURATION & MANAGEMENT
- Web-based Graphical User Interface
- Remote management over the IP Network
- FTP firmware upgrade, Backup and Restore Configuration file

GENERAL SPECIFICATION
- **AC power:** AC100 – 240V, DC12V / 1.5A, 50 – 60 Hz
- **Temperature:** 0° – 45°C (Operation)
- **Humidity:** up to 90% non-condensing
- **Emmision:** FCC Part 15 Class B, CE Mark
- **Telephone Safety:** FCC Part 68
- **Dimendion:** 260 x 130 x 35 mm
- **Weight:** 900 g (Aluminum)

Modular High Density VoIP Gateway

By Modular hardware design 065-9850/065-9854/065-9858 Series makes any combination of the telephone interface. The Signamax 065-9850/065-9854/065-9858 Series VoIP Gateway is fully SIP and /H.323 standard compliant high density gateway that provides a total solution for integrating voice-data network and PSTN. By modular installation, this revolutionary compact voice over IP (VoIP) gateway could be easily configured as 9850/9860/9870 channels high density FXS/FXO VoIP Gateway which provides voice connectivity over the IP network and to the Public Switched Telephone Network (PSTN).

SPECIFICATIONS

TELEPHONY SPECIFICATION

Voice Codec: G.711 (A-law /μ-law), G.729 AB, G.723 (6.3 Kbps / 5.3 Kbps), FAX support : T.30 / T.38
Echo Cancellation: G.165/G.168
FXO Caller ID detection: DTMF and FSK (Optional)
FXO Hang up detection / anti-seized:
Tone Learning Automatically / Manual Tone Learning (Optional)
Answer supervision: Support Battery Reverse Detection and Voice Detection.
FXO answer delay time: Support delay 0 - 8000 ms to answer.
Adjustable AC Termination Impedance : 600 / 900 OHM and complex Impedance
Failsafe Mechanism (FXS relay to FXO):
Power failed bypass support / Internet failed bypass / Registered failed bypass / Unconditional bypass
12 KHz and 16 KHz Metering (Customized)

IP SPECFICATIONS

H.323 v2/v3/v4 and SIP (RFC 3261), SDP (RFC 2327), Symmetric RTP, STUN (RFC3489), ENUM (RFC 2916), RTP Payload for DTMF Digits (RFC2833), Outbound Proxy Support.
LAN: Support Virtual Server, DHCP Server
WAN: Support PPPoE client, DHCP client, Fix IP Address, DDNS client
Network Address Translation: Providing build-in NAT router function.
Smart QoS: Guarantee the voice bandwidth
IP TOS (IP Precedence) / DiffServ

CALL FEATURES

Voice channels status display
Direct Dialing Mode: peer to peer call (support IP Address Call or Domain Name Call)
Register Call Mode: register to SIP Proxy Server or H.323 Gatekeeper
Adjustable volume: -9 – 9 db
Silence Compression / VAD
Auto Dial for speed, Dynamic Jitter Buffer, Hot-Line Support

CONFIGURATION & MANAGEMENT

Web-based Graphical User Interface
RS232 for configuration, Remote management over the IP Network
FTP firmware upgrade, Backup and Restore Configuration file
Front LCD Panel for System Status and Management
Syslog client support

GENERAL SPECIFICATION

Standard 50 pin RJ-21 Telco connectors
AC power: AC100 – 240V, DC12V/1.5A, 50/60 Hz
Temperature: 0° – 40°C (Operation)
Humidity: up to 90% non-condensing
Emission: FCC Part 15 Class B, CE Mark
Dimension: 440 x 250 x 45 mm
Weight: 3,500 g

VOIP KEY FEATURES

- **Modular design to accommodate various types of telephony interfaces.**
- **Both support SIP and H.323 protocols: SIP Registration and Digest Authentication; H.323 Gatekeeper Registration.**
- **Single Number / Account for multiple ports.**
- **Caller ID Delivery and Detection: FXS support DTMF&FSK Caller ID generation; FXO supports DTMF&FSK Caller ID detection. (Optional)**
- **Smart VoIP call Dialing Book: VoIP call Book could provide any application VoIP call to any type destination (Domain name / IP address, PSTN or PBX) or hunting number setting.**
- **AC termination Impedance: 600/900 OHM and complex impedance.**
- **Answer Supervision for Polarity Reversal Detection and Voice detection.**
- **NAT traversal: This feature allow gateway to operate behind any NAT/Firewall device. Need not to change any configuration of NAT/Firewall like setting virtual server.**
- **Smart-QoS Guaranteed: This bandwidth management feature provide good voice quality when user place a VoIP call and access internet at the same time. The gateway will automatically start to reserve bandwidth for voice traffic when VoIP call proceeds.**
- **Call Hunting Facility: This function helps gateway to use the lines effectively. This facility automatically transfers your incoming call to a free line. Subscribers need not indicate numerous numbers of each port of gateway.**
- **Voice channels status display: This function display each port status like as onhook, offhook, calling number callee's number, talk duration, codec.**
- **Pulse Dial support: Support pulse dialing generation and detection. (Optional)**
- **Flash Detection and Generation Program: FXO support Flash Generation and FXS support Flash Detection.**
- **FXO answer Mode: FXO provides Ringing Answer, Connection Answer and Non Answer for configuration.**

Modular High Density VoIP Gateway

PART NO.	DESCRIPTION
065-9850	Signamax Modular VoIP Gateway Chassis 1xWAN, 1xLAN, 8xFXs, 1xRS-232, Standard 50pin telco Connector
065-9854	Signamax Modular VoIP Gateway Chassis 1xWAN, 1xLAN, 4xFXs 4xFXo, 1xRS-232, Standard 50pin telco Connector
065-9858	Signamax Modular VoIP Gateway Chassis 1xWAN, 1xLAN, 8xFXo, 1xRS-232, Standard 50pin telco Connector
Modules	
065-9860	Module 8x FXs Ports for Modular Chassis 065-985x
065-9861	Module 4x FXs / 4x FXo Ports for Modular Chassis 065-985x
065-9862	Module 8x FXo Ports for Modular Chassis 065-985x

NETWORK CONNECTIVITY SYSTEMS

SIGNAMAX
CONNECTIVITY SYSTEMS

Media Converters

B

10/100 Switching Fibre Converters

10/100 POE Switching Fibre Converters

10/100 PCI Switching Fibre Converters

10/100 Managed Fibre Converters

10/100 Mini Switching Fibre Converters

Hardened 10/100 To 100BaseFx Converters with LFS

Stand Alone Managed Media Converters

Gigabit Fibre Converters

10/100/1000 Switching Fibre Optic Media Converters

Serial to Fibre Converters

Single Fibre WDM Converters

Singlemode to Multimode Converters

12-Port Media Converters

16-Bay Converter Chassis

18-Bay Managed Converter Chassis

Switching Fibre Converters

Signamax Connectivity Systems' Switching Media Converters provide an intelligent solution for long distance connections between legacy 10BaseT networks and the newer 100Base Fast Ethernet or 1000Base Gigabit Ethernet networks. These converters are designed to handle a wide variety of fibre optic network applications and eliminate the 412 meter distance limitation when connecting hub-based sub-networks at 100BaseFX. They also extend the maximum singlemode fibre distance, spanning over 75 km with the 065-1120XLD model.

Built-in 10/100 or 10/100/1000 switch enables the fibre cable connection to operate at 100 Mbps connected to either a 10BaseT or a 100BaseTX network, while remaining completely 100BaseFX or 1000BaseSX standard-compliant. Fibre connection can also operate in full duplex mode whether the RJ45 port is connected to a full duplex switch or a half duplex hub.

Each Media Converter provides a 10/100BaseT/TX auto-negotiating RJ45 twisted-pair connector port (10/100/1000BaseT/TX for model 065-1196) featuring store-and-forward switching architecture. Built-in switch does the network segmentation to provide the maximum fibre distance. Now with Auto-MDIX capability on the twisted-pair port for more convenient connection. Each Media Converter is also equipped with LFS (Link Fault Signaling) feature.

Switching Fibre Optic Media Converter Products

PART NO.	DESCRIPTION	FIBRE TYPE
065-1100	10/100BaseT/TX to 100BaseFX Converter	ST Multimode
065-1110	10/100BaseT/TX to 100BaseFX Converter	SC Multimode
065-1170	10/100BaseT/TX to 100BaseFX Converter	VF45 Multimode
065-1172	10/100BaseT/TX to 100BaseFX Converter	MTRJ Multimode
065-1174	10/100BaseT/TX to 100BaseFX Converter	LC Multimode
065-1120A	10/100BaseT/TX to 100BaseFX Converter	SC Singlemode (15 km span)
065-1120ED	10/100BaseT/TX to 100BaseFX Converter	SC Singlemode (40 km span)
065-1120XLD	10/100BaseT/TX to 100BaseFX Converter	SC Singlemode (75 km span)
065-1196	10/100/1000BaseT/TX to 1000BaseSX Converter	SC Multimode
065-11DINMT	DIN rail mounting bracket for 065-11xx series media converters	

SPECIFICATIONS

APPLICABLE STANDARDS
IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3u 100BaseFX
IEEE 802.3ab 1000BaseT
IEEE 802.3z 1000BaseSX

FIXED PORTS
Models 065-1100/1110/1170/1172/1174/1120/1120ED/1120XLD:
1 Auto-MDIX twisted-pair port meeting IEEE 802.3 10BaseT & IEEE 802.3u 100BaseTX standard specifications; Category 5 or better cable, 100 meters maximum distance for 100BaseTX, Category 3 or better cable, 100 meters maximum distance for 10BaseT
plus
1 fibre optic port meeting IEEE 802.3u 100BaseFX standard specification; 62.5/125 or 50/125 micron multimode fibre optic cable, 2,000 meters maximum distance
or
1 fibre optic port meeting IEEE 802.3u 100BaseFX standard specification; 9/125 micron singlemode fibre optic cable, spanning: 15 kilometers maximum distance (model 065-1120)
or
40 kilometers maximum distance (model 065-1120ED)
or
75 kilometers maximum distance (model 065-1120XLD)
Model 065-1196:
1 Auto-MDIX twisted-pair port meeting IEEE 802.3 10BaseT, IEEE 802.3u 100BaseTX & IEEE 802.3ab 1000BaseT standard specifications; Category 5e
or
better cable, 100 meters maximum distance for 1000BaseT, Category 5
or
better cable, 100 meters maximum distance for 100BaseTX, Category 3 or better cable, 100 meters maximum distance for 10BaseT
plus
1 fibre optic port meeting IEEE 802.3z 1000BaseSX standard specification; 62.5/125 micron multimode fibre optic cable, 220 meters maximum distance, or 50/125 micron multimode fibre optic cable, 550 meters maximum distance

PERFORMANCE
Latency: < 4.2 µs (LIFO)
Throughput @ 100Base: 148,809 pps
Throughput @ 1000Base: 1,488,100 pps (64-byte packets)

LEDs
Per unit: Power status, RJ45 port speed
Per Port: LNK/ACT, FDX/COL
Six LEDs total

PHYSICAL CHARACTERISTICS
Case dimensions (L x W x H):
110 x 81 x 23 mm (4.33 x 3.19 x 0.91")
Fibre connector interface varies with model.
Weight: 150 grams

SAFETY
UL Listed

Model 065-1100

Model 065-1110

Model 065-1170

Model 065-1172

Model 065-1174

10/100 to 100BaseFX Power over Ethernet Fibre Media Converters

The Signamax 065-1050 series media converters are 10/100BaseT/TX to 100BaseFX Power over Ethernet (PoE) devices that serve as Power Sourcing Equipment (PSE), which allows the converter to provide power to IEEE 802.3af PoE standard-compliant Powered Devices (PDs) using the twisted pair connection. This AC-powered PoE media converter combines data received over a fibre optic link with
-48 Volt DC power, which the PD can use instead of a separate power connector. The 065-1050 series converters are also equipped with PD signature-sensing, power monitoring, over-voltage protection, low voltage detection, and input fault protection features. The 065-1050 series' Link Fault Signaling (LFS) capability allows the media converter to monitor both the fibre and copper RX ports for signal loss. In case of a loss of RX signal on one media port, the converter will automatically disable the TX signal to the other media port, thus passing through the link fault. Far End Fault (FEF) capability enables the converter to stop sending link pulse to the link partner once a loss of the fibre RX signal is encountered; the link partner will then synchronously stop sending data, thereby preventing the loss of data that would occur when trying to transmit over a failed link.

The Signamax 065-1052 series media converters are PoE 10/100BaseT/TX to 100BaseFX Powered Devices supporting two types of media, 10/100BaseT/TX and 100BaseFX, for network connection. They are also equipped with Link Fault Signaling (LFS), to maintain link integrity and enable automatic failover when used with Spanning Tree-equipped switches.

Model 065-1050

10/100 to 100BaseFX Power over Ethernet Fibre Media Converters

PART NO.	DESCRIPTION
065-1050ST	10/100BaseT/TX to 100BaseFX PSE PoE media converter, Multimode/ST, 2 km
065-1050SC	10/100BaseT/TX to 100BaseFX PSE PoE media converter, Multimode/SC, 2 km
065-1050SM	10/100BaseT/TX to 100BaseFX PSE PoE media converter, Singlemode/SC, 15 km
065-1050SMED	10/100BaseT/TX to 100BaseFX PSE PoE media converter, Singlemode/SC, 40 km
065-1050SMXLD	10/100BaseT/TX to 100BaseFX PSE PoE media converter, Singlemode/SC, 75 km
065-1052ST	10/100BaseT/TX to 100BaseFX PD PoE media converter, Multimode/ST, 2 km
065-1052SC	10/100BaseT/TX to 100BaseFX PD PoE media converter, Multimode/SC, 2 km
065-1052SM	10/100BaseT/TX to 100BaseFX PD PoE media converter, Singlemode/SC, 15 km
065-1052SMED	10/100BaseT/TX to 100BaseFX PD PoE media converter, Singlemode/SC, 40 km
065-1052SMXLD	10/100BaseT/TX to 100BaseFX PD PoE media converter, Singlemode/SC, 75 km

SPECIFICATIONS

APPLICABLE STANDARDS
IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3u 100BaseFX
IEEE 802.3af Power over Ethernet (PoE)

FIXED PORTS
models 065-1050ST, 065-1050SC, 065-1050SM, 065-1050SMED, 065-1050SMXLD:
1 Auto-MDIX twisted-pair port meeting IEEE 802.3 10BaseT & IEEE 802.3u 100BaseTX standard specifications; Category 5 or better cable, 100 meters maximum distance for 100BaseTX, Category 3 or better cable, 100 meters maximum distance for 10BaseT
plus
1 fibre optic port meeting IEEE 802.3u 100BaseFX standard specification; 62.5/125 or 50/125 micron multimode fibre optic cable, 2,000 meters maximum distance (model 065-1050ST & 065-1050SC)
or
1 fibre optic port meeting IEEE 802.3u 100BaseFX standard specification; 9/125 micron singlemode fibre optic cable, spanning: 15 kilometers maximum distance (model 065-1050SM)
or
1 fibre optic port meeting IEEE 802.3u 100BaseFX standard specification; 9/125 micron singlemode fibre optic cable, spanning: 40 kilometers maximum distance (model 065-1050SMED)
or
1 fibre optic port meeting IEEE 802.3u 100BaseFX standard specification; 9/125 micron singlemode fibre optic cable, spanning: 75 kilometers maximum distance (model 065-1050SMXLD)

models 065-1052ST, 065-1052SC, 065-1052SM, 065-1052SMED, 065-1052SMXLD:
1 Auto-MDIX twisted-pair port meeting IEEE 802.3 10BaseT & IEEE 802.3u 100BaseTX standard specifications; Category 5 or better cable, 100 meters maximum distance for 100BaseTX, Category 3 or better cable, 100 meters maximum distance for 10BaseT
plus
1 fibre optic port meeting IEEE 802.3u 100BaseFX standard specification; 62.5/125 or 52/125 micron multimode fibre optic cable, 2,000 meters maximum distance (model 065-1052ST & 065-1052SC)
or
1 fibre optic port meeting IEEE 802.3u 100BaseFX standard specification; 9/125 micron singlemode fibre optic cable, spanning: 15 kilometers maximum distance (model 065-1052SM)
or
1 fibre optic port meeting IEEE 802.3u 100BaseFX standard specification; 9/125 micron singlemode fibre optic cable, spanning: 40 kilometers maximum distance (model 065-1052SMED)
or
1 fibre optic port meeting IEEE 802.3u 100BaseFX standard specification; 9/125 micron singlemode fibre optic cable, spanning: 75 kilometers maximum distance (model 065-1052SMXLD)

PERFORMANCE
Latency: < 4.2 µs (LIFO)
Throughput @ 100Base: 148,809 pps (64-byte packets)

LEDs
models 065-1050ST, 065-1050SC, 065-1050SM, 065-1050SMED, 065-1050SMXLD:
Power, PoE, TP Link/Act, 100, FX Link/Act, FDX/COL, 4W, 7W, 15.4W, Power Bad
models 065-1052ST, 065-1052SC, 065-1052SM, 065-1052SMED, 065-1052SMXLD:
FX Link/Act, FX FDX/Col, TX Link/Act, TX 100, PSE Power Good, PSE Power Bad, Power

PHYSICAL CHARACTERISTICS
Case dimensions (L x W x H):
models 065-1050ST, 065-1050SC, 065-1050SM, 065-1050SMED, 065-1050SMXLD:
185 x 112 x 30 mm (7.28 x 4.41 x 1.18")
models 065-1052ST, 065-1052SC, 065-1052SM, 065-1052SMED, 065-1052SMXLD:
94 x 70.3 x 26.2 mm (3.70 x 2.77 x 1.03") Fibre optic interface varies with model.

SAFETY
FCC Part 15 Class A & CE Mark

Model 065-1052SC

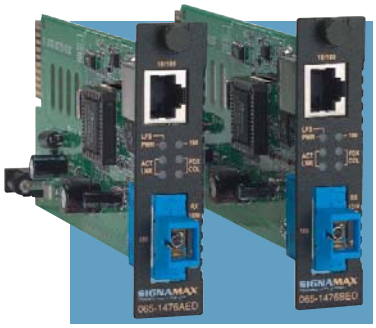
Model 065-1052ST

10/100 Switching Managed Media Converters

Signamax Connectivity Systems' 065-1400 series Managed Switching Media Converters are modular SNMP-managed media converter cards available with a variety of interfaces to provide copper-to-fibre conversion for mission-critical networks. They are used with the 065-1480 Managed Media Converter Rack Mount Chassis to enable network managers to remotely monitor the status of their entire network via RJ45 (in band) or RS-232 (out of band) connection to the 065-1481 series SNMP Management Module included with every Signamax 065-1480 chassis system. Up to eighteen managed media converters are supported in a single 2U-high chassis. Equipped with Link Fault Signaling (LFS) and Loopback Testing capabilities, they extend the enterprise LAN configuration range up to 60 km while simultaneously minimizing downtime expenses and extending the lifespan and reach of existing copper-based managed switches.

Model 065-1476A/B

Signamax Connectivity Systems' 065-1400 series Singlemode to Multimode Managed Media Converters are an enhancement to the Signamax SNMP-managed media converter system. These card-based converters are available with a variety of interfaces to provide singlemode-to-multimode fibre conversion for mission-critical Fast Ethernet, Gigabit Ethernet, and Asynchronous Transfer Mode (ATM) networks. Gigabit Ethernet singlemode-to-singlemode repeater model is also available on request. They are used with the 065-1480 Managed Media Converter Rack Mount Chassis to enable network managers to remotely monitor the status of their entire network via RJ45 (in band) or RS-232 (out of band) connection to the 065-1481 series SNMP Management Module included with every Signamax 065-1480 chassis system. Up to eighteen managed media converters are supported in a single 2U-high chassis. They extend the enterprise LAN or carrier network range up to 60 km while simultaneously minimizing downtime expenses and extending the lifespan and reach of existing copper-based managed switches.



Model 065-1476AED/BED

Managed Gigabit Fibre Optic & Switching 10/100 Fibre Optic Media Converters

PART NO.	DESCRIPTION
065-1400	10/100BaseT/TX to 100BaseFX Converter ST Multimode
065-1410	10/100BaseT/TX to 100BaseFX Converter SC Multimode
065-1420	10/100BaseT/TX to 100BaseFX Converter SC Singlemode (30 km span)
065-1420ED	10/100BaseT/TX to 100BaseFX Converter SC Singlemode (60 km span)
065-1476A	10/100BaseT/TX to 100BaseFX Converter WDM Singlemode (20 km span)
065-1476B	10/100BaseT/TX to 100BaseFX Converter WDM Singlemode (20 km span)
065-1476AED	10/100BaseT/TX to 100BaseFX Converter WDM Singlemode (40 km span)
065-1476BED	10/100BaseT/TX to 100BaseFX Converter WDM Singlemode (40 km span)
065-1490	155 Mbps ATM SC Multimode to 155 Mbps ATM SC Singlemode (20 km span)
065-1490HS	622 Mbps ATM SC Multimode to 622 Mbps ATM SC Singlemode (20 km span)
065-1494	1000BaseSX SC Multimode to 1000BaseLX SC Singlemode (10 km span)
065-1494ED	1000BaseSX SC Multimode to 1000BaseLX SC Singlemode (20 km span)
065-1498XLD	1000BaseLX SC Singlemode (20 km span) to 1000BaseLX SC Singlemode (20 km span)

SPECIFICATIONS

APPLICABLE STANDARDS
IEEE 802.3u 100BaseFX
IEEE 802.3z 1000BaseSX/LX
Asynchronous Transfer Mode (ATM)
155 Mbps Specifications (model 065-1490)
Asynchronous Transfer Mode (ATM)
622 Mbps Specifications (model 065-1490HS)
Synchronous Optical Network (SONET)
Optical Carrier – 3 (OC-3) Specifications
(model 065-1490)
Synchronous Optical Network (SONET)
Optical Carrier – 12 (OC-12) Specifications
(model 065-1490HS)
Synchronous Digital Hierarchy (SDH) STM-1
Specifications (model 065-1490)
Synchronous Digital Hierarchy (SDH) STM-4
Specifications (model 065-1490HS)

FIXED PORTS
100BaseFX models:
1 ST duplex fibre optic port meeting
IEEE 802.3u 100BaseFX standard
specification; 62.5/125 or 50/125 micron
multimode fibre optic cable, 2,000 meters
maximum distance (model 065-1430 &
065-1430ED)
or
1 SC duplex fibre optic port meeting
IEEE 802.3u 100BaseFX standard
specification; 62.5/125 or 50/125 micron
multimode fibre optic cable, 2,000 meters
maximum distance (model 065-1432 &
065-1432ED)
plus
1 SC duplex fibre optic port meeting
IEEE 802.3u 100BaseFX standard
specification; 9/125 micron singlemode fibre
optic cable, spanning: 30 kilometers maximum
distance (model 065-1430 & 065-1432)
or
60 kilometers maximum distance
(model 065-1430ED & 065-1432ED)

1000BaseSX to 1000BaseLX model 065-1494 & 065-1494ED:
1 SC fibre optic port meeting IEEE 802.3z
1000BaseSX standard specification; 62.5/125
(220 meters maximum distance) or
50/125 micron (550 meters maximum
distance) multimode fibre optic cable
plus
1 SC duplex fibre optic port meeting
IEEE 802.3z 1000BaseLX standard
specification; 9/125 micron singlemode
fibre optic cable, spanning: 10 kilometers
maximum distance (model 065-1494)
or
20 kilometers maximum distance
(model 065-1494ED)

1000BaseLX to 1000BaseLX Repeater, model 065-1498XLD (Special Order):
1 SC duplex fibre optic port meeting
IEEE 802.3z 1000BaseLX standard
specification; 9/125 micron singlemode
fibre optic cable, spanning: 20 kilometers
maximum distance
plus
1 SC duplex fibre optic port meeting
IEEE 802.3z 1000BaseLX standard
specification; 9/125 micron singlemode
fibre optic cable, spanning: 20 kilometers
maximum distance

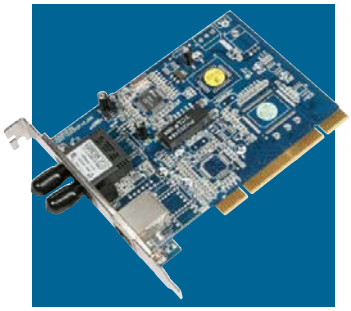
Asynchronous Transfer Mode (ATM) models:
1 SC duplex fibre optic port meeting ATM
155 Mbps, SONET OC-3, and SDH STM-1
standard specifications (model 065-1490);
62.5/125 or 50/125 micron multimode fibre
optic cable, 2,000 meters maximum distance
or
1 SC duplex fibre optic port meeting ATM
622 Mbps, SONET OC-12, and SDH STM-4
standard specifications (model 065-1490HS);
62.5/125 or 50/125 micron multimode fibre
optic cable, 2,000 meters maximum distance
plus
1 SC duplex fibre optic port meeting ATM
155 Mbps, SONET OC-3, and SDH STM-1
standard specifications (model 065-1490);
9/125 micron singlemode fibre optic cable,
spanning: 20 kilometers maximum distance
or
1 SC duplex fibre optic port meeting
ATM 622 Mbps, SONET OC-12, and
SDH STM-4 standard specifications
(model 065-1490HS);
9/125 micron singlemode fibre optic cable,
spanning: 20 kilometers maximum distance

PERFORMANCE
Delay: less than 21 bit times

PHYSICAL CHARACTERISTICS
Dimensions (L x W x H):
171.5 x 69 x 21.5 mm
(6.75 x 2.72 x 0.85")
Fibre optic interface varies with model.
Weight: 115 grams
Power: External power supply;
12 Volts DC;
0.8A (Supplied via 065-1480 chassis only)
Power consumption: 2.8 Watts maximum
Operating temperature: 0° – 50°C
(32° – 122°F)
Storage temperature:- 20° – 70°C
(-4° – 158°F)
Operating humidity: 10-80%,
non-condensing
Storage humidity: 5-90%, non-condensing

EMISSIONS
FCC part 15 Class A, CE Mark

10/100BaseT/TX Switching PCI Fibre Optic Media Converters



Model 065-1060ST

Signamax Connectivity Systems' Switching PCI Fibre Optic Media Converters are an excellent solution for fibre-to-the-desktop installations where the workstation computers have pre-installed Network Interfaces. These media converters are inserted into one of the PC's available PCI slots, and a copper patch cable is used to connect the media converter to the existing network interface jack on the PC's motherboard or in an adjoining PCI slot. The fibre optic cable then connects to the fibre-based cabling plan for network connectivity. Avoids the need for fibre NIC driver maintenance in environments where PCs are used in both fibre- and copper-connected areas. These converters are designed to handle both legacy 10BaseT and 100BaseTX Fast Ethernet devices on their twisted pair port while maintaining 100BaseFX Fast Ethernet transmission on the fibre optic port. Plug-and-play simplicity makes connection easy.

Each Media Converter provides a 10/100BaseT/TX auto-negotiating RJ45 twisted-pair connector port with Auto-MDIX capability for convenient connection. Built-in 10/100 switch enables the fibre cable connection to operate at 100 Mbps connected to either a 10BaseT or a 100BaseTX network, while remaining completely 100BaseFX standard-compliant.

Model 065-1060SC

10/100BaseT/TX Switching PCI Fibre Optic Media Converters

PART NO.	DESCRIPTION
065-1060SC	PCI card-based 10/100BaseT/TX to 100BaseFX, Multimode/SC, 2 km
065-1060ST	PCI card-based 10/100BaseT/TX to 100BaseFX, Multimode/ST, 2 km
065-1060SM	PCI card-based 10/100BaseT/TX to 100BaseFX, Singlemode/SC, 20 km
065-1060SMED	PCI card-based 10/100BaseT/TX to 100BaseFX, Singlemode/SC, 40 km
065-1060SMXLD	PCI card-based 10/100BaseT/TX to 100BaseFX, Singlemode/SC, 75 km

SPECIFICATIONS

APPLICABLE STANDARDS
IEEE 802.3 10BaseT, IEEE 802.3u 100BaseTX
IEEE 802.3u 100BaseFX, ANSI/IEEE 802.3 NWAY
Auto-negotiation, PCI Specification 2.0/2.1.

FIXED PORTS
1 Auto-MDIX twisted-pair port meeting IEEE 802.3 10BaseT & IEEE 802.3u 100BaseTX standard specifications; Category 5 or better cable, 100 meters maximum distance for 100BaseTX, Category 3 or better cable, 100 meters maximum distance for 10BaseT **plus**
1 fibre optic port with SC (model 065-1060SC) or ST (model 065-1060ST) meeting IEEE 802.3u 100BaseFX standard specification; 62.5/125 or 50/125 micron multimode fibre optic cable, 2,000 meters maximum distance **or**
1 SC duplex fibre optic port meeting IEEE 802.3u 100BaseFX standard specification; 9/125 micron singlemode fibre optic cable, spanning: 20 kilometers maximum distance (model 065-1060SM) **or** 40 kilometers maximum distance (model 065-1060SMED) **or** 75 kilometers maximum distance (model 065-1060SMXLD)

PERFORMANCE
Latency: < 4.2 µs (LIFO)
Throughput @ 100Base: 148,809 pps (64-byte packets)

LEDs
Per Port: LNK/ACT TX, LNK/ACT FX, Two LEDs total

ARCHITECTURE
32-Bit PCI Bus Mastering

10/100BaseT/TX Switching Mini Fibre Optic Media Converters

Model 065-1010

Signamax Connectivity Systems' Switching Mini Fibre Optic Media Converters provide an intelligent solution for fibre optic connectivity where simplicity, low cost, and minimum footprint are the primary considerations. These converters are designed to handle both legacy 10BaseT and 100BaseTX Fast Ethernet devices on their twisted pair port while maintaining 100BaseFX Fast Ethernet transmission on the fibre optic port. Plug-and-play simplicity makes connection easy.

Each Media Converter provides a 10/100BaseT/TX auto-negotiating RJ45 twisted-pair connector port with Auto-MDIX capability for more convenient connection. Built-in 10/100 switch enables the fibre cable connection to operate at 100 Mbps connected to either a 10BaseT or a 100BaseTX network, while remaining completely 100BaseFX standard-compliant. Fibre connection can also operate in full duplex mode whether the RJ45 port is connected to a full duplex switch or a half duplex hub.

SPECIFICATIONS

APPLICABLE STANDARDS
IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3u 100BaseFX

FIXED PORTS
1 Auto-MDIX twisted-pair port meeting IEEE 802.3 10BaseT & IEEE 802.3u 100BaseTX standard specifications; Category 5 or better cable, 100 meters maximum distance for 100BaseTX, Category 3 or better cable, 100 meters maximum distance for 10BaseT
plus
1 fibre optic port meeting IEEE 802.3u 100BaseFX standard specification; 62.5/125 or 50/125 micron multimode fibre optic cable, 2,000 meters maximum distance (model 065-1010 & 065-1010)
or
1 fibre optic port meeting IEEE 802.3u 100BaseFX standard specification; 9/125 micron singlemode fibre optic cable, spanning:
20 kilometers maximum distance (model 065-1020)
or
40 kilometers maximum distance (model 065-1020ED)
or
75 kilometers maximum distance (model 065-1020XLD)

PERFORMANCE
Latency: < 4.2 µs (LIFO)
Throughput @ 100Base: 148,809 pps (64-byte packets)

LEDs
Per Port: LNK/ACT TX, LNK/ACT FX
Two LEDs total

PHYSICAL CHARACTERISTICS
Case dimensions (L x W x H):
80 x 54 x 22 mm (3.15 x 2.13 x 0.87")
Fibre optic interface varies with model.
Weight: 0.122 kg

SAFETY
UL Listed

Model 065-1000

10/100BaseT/TX Switching Mini Fibre Optic Media Converters

PART NO.	DESCRIPTION
065-1000	10/100BaseT/TX to 100BaseFX, Multimode/ST, 2 km
065-1010	10/100BaseT/TX to 100BaseFX, Multimode/SC, 2 km
065-1020	10/100BaseT/TX to 100BaseFX, Singlemode/SC, 20 km
065-1020ED	10/100BaseT/TX to 100BaseFX, Singlemode/SC, 40 km
065-1020XLD	10/100BaseT/TX to 100BaseFX, Singlemode/SC, 75 km

Hardened 10/100 To 100BaseFx Converters with LFS

Signamax has responded to the demands of fibre optic deployment in rugged environments by introducing the 065-1800 series of hardened media converters. The 065-1800 series provides flexibility in connector types with the extended temperature and humidity ranges required for high-risk installations. Switching models are available for converting Fast Ethernet twisted pair copper cabling to both multimode and singlemode fibre optic cabling, including models supporting single-strand singlemode fibre requirements using Wave Division Multiplexing (WDM) technology. In addition, Fast Ethernet singlemode to multimode converters round out the line, making Signamax the choice for your harsh environment Fast Ethernet fibre optic conversion needs. Also Gigabit models available.

Hardened 10/100BaseT/TX to 100BaseFX Converters with LFS

PART NO.	DESCRIPTION
065-1800	10/100 to 100FX MM/ST, 2 km Hardened Converter
065-1810	10/100 to 100FX MM/SC, 2 km Hardened Converter
065-1820	10/100 to 100FX SM/SC, 20 km Hardened Converter
065-1820ED	10/100 to 100FX SM/SC, 40 km Hardened Converter
065-1876A	10/100 to 100FX SM/SC, 20 km Single Fibre WDM Hardened Converter
065-1876B	10/100 to 100FX SM/SC, 20 km Single Fibre WDM Hardened Converter
065-1876AED	10/100 to 100FX SM/SC, 40 km Single Fibre WDM Hardened
065-1876BED	10/100 to 100FX SM/SC, 40 km Single Fibre WDM Hardened
065-1830	100FX SM/SC, 20 km to 100FX MM/ST, 2 km Hardened Converter
065-1830ED	100FX SM/SC, 40 km to 100FX MM/ST, 2 km Hardened Converter
065-1832	100FX SM/SC, 20 km to 100FX MM/SC, 2 km Hardened Converter
065-1832ED	100FX SM/SC, 40 km to 100FX MM/SC, 2 km Hardened Converter
065-11DINMT	DIN rail mounting bracket for 065-11xx series media converters

SPECIFICATIONS

APPLICABLE STANDARDS
IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3u 100BaseFX

FIXED PORTS
Switching 10/100 to 100FX models:
1 twisted-pair port meeting IEEE 802.3 10BaseT & IEEE 802.3u 100BaseTX standard specifications; Category 5 or better cable, 100 meters maximum distance for 100BaseTX, Category 3 or better cable, 100 meters maximum distance for 10BaseT
plus
1 fibre optic port meeting IEEE 802.3u 100BaseFX standard specification; 62.5/125 or 50/125 micron multimode fibre optic cable, 2,000 meters maximum distance **or**
1 SC duplex fibre optic port meeting IEEE 802.3u 100BaseFX standard specification; 9/125 micron singlemode fibre optic cable, spanning: 20 kilometers maximum distance (model 065-1820) **or**
40 kilometers maximum distance (model 065-1820ED) **or**
1 WDM fibre optic port meeting IEEE 802.3u 100BaseFX standard specification; 9/125 micron singlemode fibre optic cable, spanning: 20 kilometers maximum distance (models 065-1876A and 065-1876B) **or**
1 WDM fibre optic port meeting IEEE 802.3u 100BaseFX standard specification; 9/125 micron singlemode fibre optic cable, spanning: 40 kilometers maximum distance (models 065-1876AED and 065-1876BED)
100BaseFX single to multimode models:
1 ST duplex fibre optic port meeting IEEE 802.3u 100BaseFX standard specification; 62.5/125 or 50/125 micron multimode fibre optic cable, 2,000 meters maximum distance (models 065-1830 & 065-1830ED) **or**
1 SC duplex fibre optic port meeting IEEE 802.3u 100BaseFX standard specification; 62.5/125 or 50/125 micron multimode fibre optic cable, 2,000 meters maximum distance (models 065-1832 & 065-1832ED) **plus**
1 SC duplex fibre optic port meeting IEEE 802.3u 100BaseFX standard specification; 9/125 micron singlemode fibre optic cable, spanning: 30 kilometers maximum distance (models 065-1830 & 065-1832) **or**
60 kilometers maximum distance (models 065-1830ED & 065-1832ED)

PERFORMANCE
Latency: < 4.2 µs (LIFO)
Throughput: 148,809 pps @ 100 Mbps; 14,880 pps @ 10 Mbps (64-byte packets)

LEDs
Switching 10/100 to 100FX models:
Per Unit – Power status, Speed (2 LEDs)
Per Port – LNK/ACT, FDX/COL (2 LEDs)
6 LEDs total
100BaseFX single to multimode models:
Per Unit – Power status (1 LED)
Per Port – SDA or SDB (1 LED)
3 LEDs total

PHYSICAL CHARACTERISTICS
Case dimensions (L x W x H):
130 x 110 x 30 mm (5.12 x 4.30 x 1.18")
Fibre connector protrusion varies with model.
Weight: 0.8 kg
Power:
External power supply; 12 Volts DC; 0.5A
Operating temperature:
-34° – 74°C (-30° – 165°F)
Storage temperature:
-45° – 93°C (-50° – 200°F)
Operating & Storage Humidity:
10-95%, non-condensing

EMISSIONS
CC part 15 Class A, CE Mark

Stand Alone Managed Switching 10/100 Media Converters

Model 065-1610 back

Signamax Connectivity Systems' 065-1600 series Standalone Managed Switching 10/100 Media Converters are individually-housed SNMP-managed media converters available with singlemode and multimode interfaces to provide copper-to-fibre conversion for mission-critical networks. They are typically used as circuit endpoint devices together with the Signamax Managed Media Converter Rack Mount Chassis System to enable network managers to remotely monitor the status of their entire fibre optic Fast Ethernet network all the way to the fibre optic circuit's last termination.

An individual SNMP management agent is included with each Signamax 065-1600 series standalone managed converter. Equipped with Link Fault Signaling (LFS) and Loopback Testing capabilities, they extend the enterprise LAN configuration range up to 60 km while simultaneously minimizing downtime and technician dispatch expense.

Model 065-1610

Standalone Managed Switching 10/100 Media Converters

PART NO.	DESCRIPTION
065-1600	10/100BaseT/TX to 100BaseFX Converter ST Multimode
065-1610	10/100BaseT/TX to 100BaseFX Converter SC Multimode
065-1620	10/100BaseT/TX to 100BaseFX Converter SC Singlemode (30 km span)
065-1620ED	10/100BaseT/TX to 100BaseFX Converter SC Singlemode (60 km span)
065-1620XLD	10/100BaseT/TX to 100BaseFX Converter SC Singlemode (90 km span)
065-1676A	10/100BaseT/TX to 100BaseFX Converter WDM Singlemode (20 km span)
065-1676B	10/100BaseT/TX to 100BaseFX Converter WDM Singlemode (20 km span)
065-1676AED	10/100BaseT/TX to 100BaseFX Converter WDM Singlemode (40 km span)
065-1676BED	10/100BaseT/TX to 100BaseFX Converter WDM Singlemode (40 km span)

SPECIFICATIONS

APPLICABLE STANDARDS
IEEE 802.3 10BaseT, IEEE 802.3u 100BaseTX
IEEE 802.3u 100BaseFX

FIXED PORTS
1 twisted-pair port meeting IEEE 802.3 10BaseT & IEEE 802.3u 100BaseTX standard specifications; Category 5 or better cable, 100 meters maximum distance for 100BaseTX, Category 3 or better cable, 100 meters maximum distance for 10BaseT
plus 1 fibre optic port meeting IEEE 802.3u 100BaseFX standard specification; 62.5/125 or 50/125 micron multimode fibre optic cable, 2,000 meters maximum distance
or 1 SC duplex fibre optic port meeting IEEE 802.3u 100BaseFX standard specification;
9/125 micron singlemode fibre optic cable, spanning:
20 kilometers maximum distance (model 065-1620)
or 40 kilometers maximum distance (model 065-1620ED)
or 60 kilometers maximum distance (model 065-1620XLD)
or 1 WDM fibre optic port meeting IEEE 802.3u 100BaseFX standard specification;
9/125 micron singlemode fibre optic cable, spanning: 20 kilometers maximum distance (models 065-1676A and 065-1676B)
or 1 WDM fibre optic port meeting IEEE 802.3u 100BaseFX standard specification;
9/125 micron singlemode fibre optic cable, spanning: 40 kilometers maximum distance (models 065-1676AED and 065-1676BED)

PERFORMANCE
Latency: < 0.25 µs (LIFO)
Throughput: 148,809 pps (64-byte packets)

PHYSICAL CHARACTERISTICS
Dimensions (L x W x H): 267 x 126 x 44 mm (10.5 x 5.0 x 1.73")
Fibre connector protrusion varies with model.
Weight: 1.0 kg
Power: Internal power supply; 90 – 240 Volts AC
Operating temperature: 0° – 50°C
Storage temperature: -20° – 70°C
Operating humidity: 10-80%, non-condensing
Storage humidity: 5-90%, non-condensing
EMI: FCC part 15 Class A, CE Mark

Gigabit Media Converters

Signamax Connectivity Systems' Gigabit Ethernet Media Converters make it simple to extend distances over multimode or singlemode fibre. They are designed to expand the scope of your Gigabit Ethernet network applications and are 100% compliant with Ethernet IEEE 802.3ab and 802.3z specifications. These converters maintain the same form factor as other Signamax media converters, allowing use in the model 065-1185 16-Bay Signamax Rack Mount Chassis. Twisted pair to fibre optic converters for both multimode and singlemode fibre, multimode to singlemode converters, and singlemode to singlemode extenders are available.

SPECIFICATIONS

APPLICABLE STANDARDS
IEEE 802.3ab 1000BaseT
IEEE 802.3z 1000BaseLX
IEEE 802.3z 1000BaseSX

FIXED PORTS
One twisted-pair port meeting
IEEE 802.3ab standard specification; Category 5e or better cable, 100 meters maximum distance
and/or
One fibre optic port meeting IEEE 802.3z standard; 62.5/125 micron multimode fibre optic cable, 220 meters maximum distance or 50/125 micron multimode fibre optic cable, 550 meters maximum distance (model 065-1194 & 065-1195)
or
1 fibre optic port meeting IEEE 802.3z 1000BaseLX standard specification; 9/125 micron singlemode fibre optic cable, spanning 10 kilometers maximum distance (model 065-1194 & 065-1197)
or
20 kilometers maximum distance (models 065-1194ED, 065-1197ED & 065-1198XLD)

PERFORMANCE
1,488,000 packets per second at 1,000 Mbps

LEDs
Power; TX; RX; FDX/COL; LNKF; LNKC (or LNK1; LNK2, model 065-1198XLD)

PHYSICAL CHARACTERISTICS
Dimensions (L x W x H):
110 x 81 x 23 mm (4.33 x 3.19 x 0.91")
Weight: 150 grams

SAFETY
UL Listed

Model 065-1195

Gigabit Ethernet Media Converters

PART NO.	DESCRIPTION
065-1194	1000BaseSX to 1000BaseLX Gigabit Ethernet SC multimode to SC singlemode media converter, 10 km span
065-1194ED	1000BaseSX to 1000BaseLX Gigabit Ethernet SC multimode to SC singlemode media converter, 20 km span
065-1195	1000BaseT to 1000BaseSX Gigabit Ethernet media converter, SC multimode
065-1197	1000BaseT to 1000BaseLX Gigabit Ethernet media converter, SC singlemode, 10 km span
065-1197ED	1000BaseT to 1000BaseLX Gigabit Ethernet media converter, SC singlemode, 20 km span
065-1198XLD	1000BaseLX to 1000BaseLX Gigabit Ethernet fibre optic repeater, SC singlemode, 20 km span each port
065-11DINMT	DIN rail mounting bracket for 065-11xx series media converters

10/100/1000 Switching Fibre Optic Media Converters

Model 065-1196

Signamax Connectivity Systems' 10/100/1000 Switching Media Converter provides an intelligent solution for long distance connections between legacy 10BaseT and 100BaseTX networks and the newer 1000Base Gigabit Ethernet networks. The built-in 10/100/1000 switch enables the fibre optic connection to operate at 1,000 Mbps connected to either a 10BaseT, 100BaseTX, or a 1000BaseT network, while remaining completely 1000BaseSX standard-compliant for the fibre optic connection. The fibre connection can also operate in full duplex mode whether the RJ45 port is connected to a full duplex switch or a half duplex hub.

Each model 065-1196 Media Converter provides a 10/100/1000BaseT/TX auto-negotiating RJ45 twisted-pair connector port featuring store-and-forward switching architecture. Built-in switch does the network segmentation to provide the maximum fibre distance. Auto-MDIX capability on the twisted-pair port allows convenient connection.

10/100/1000 Switching Converters

PART NO.	DESCRIPTION
065-1196	10/100/1000BaseT/TX to 1000BaseSX, Multimode/SC
065-1196LX	10/100/1000BaseT/TX to 1000BaseLX, Singlemode/SC (10 km span)
065-1196LXED	10/100/1000BaseT/TX to 1000BaseLX, Singlemode/SC (20 km span)
065-11DINMT	DIN Rail mounting bracket for 065-11xx series media converters

SPECIFICATIONS

APPLICABLE STANDARDS
IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3ab 1000BaseT
IEEE 802.3z 1000BaseSX/LX

FIXED PORTS
1 Auto-MDIX twisted-pair port meeting IEEE 802.3 10BaseT, IEEE 802.3u 100BaseTX & IEEE 802.3ab 1000BaseT standard specifications; Category 5e or better cable, 100 meters maximum distance for 1000BaseT, Category 5 or better cable, 100 meters maximum distance for 100BaseTX, Category 3 or better cable, 100 meters maximum distance for 10BaseT **plus**
1 fibre optic port meeting IEEE 802.3z 1000BaseSX standard specification; 62.5/125 micron multimode fibre optic cable, 220 meters maximum distance, or 50/125 micron multimode fibre optic cable, 550 meters maximum distance (model 065-1196) **or**
1 fibre optic port meeting IEEE 802.3z 1000BaseLX standard specification; 9 micron singlemode fibre optic cable, 10 km maximum distance (model 065-1196LX) **or**
1 fibre optic port meeting IEEE 802.3z 1000BaseLX standard specification; 9 micron singlemode fibre optic cable, 20 km maximum distance (model 065-1196LXED)

PERFORMANCE
Latency: < 4.2 µs (LIFO)
Throughput @ 100Base: 148,809 pps (64-byte packets)
Throughput @ 1000Base: 1,488,100 pps (64-byte packets)

LEDs
Per unit: Power status, RJ45 port speed
Per Port: LNK/ACT, FDX/COL
Six LEDs total

PHYSICAL CHARACTERISTICS
Case dimensions (L x W x H): 110 x 81 x 23 mm (4.33 x 3.19 x 0.91") Fibre optic interface varies with model.
Weight: 150 grams

SAFETY
UL Listed

Serial Data to Fibre/TP Media Converters

Signamax Connectivity Systems' Serial Data Fibre Media Converters make it simple to extend distances over multimode or singlemode fibre. They are designed to expand the scope of your RS-232 or RS-422/485 serial data applications, and are 100% compliant with EIA RS-232 unbalanced and both RS-422 & RS-485 4-wire balanced line specifications. Converters for both multimode and singlemode fibre are available in RS-232/-422/-485 configurations.

KEY FEATURES

- **The Nebility and Webility with Virtual COM (HP Open View and IBM/Tivoli NetView compatible)**
- **Managed via CLI, Telnet, RS-232 Console, and Menu-driven interfaces**
- **Distributed and scalable solution with 256 virtual COM ports control from one device server**
- **Complies with EIA/TIA-232, EIA/TIA- 574, IEEE 802.3 (10Base-T), IEEE 802.3u (100Base-TX)**
- **Supports 4 wires full duplex asynchronous serial data transmission (RS-422/485)**
- **Supports 2 wires half-duplex asynchronous serial data transmission (RS-485)**
- **Extended distances up to 1.2 km (24 AWG) using RS-422/485**
- **Supports serial port asynchronous data rates up to 115.2 Kbps**
- **Auto-detecting 10/100 Mbps Ethernet interface**
- **3-in-1 RS-232/422/485 serial interfaces**
- **Auto MDI/MDI-X**
- **External power supply**
- **Chassis compliant (internal power supply)**
- **FCC Class A & CE approved**

Serial Data Fibre Optic/TP Media Converters

PART NO.	DESCRIPTION
065-1163T	RS-232/422/485 to 100BaseT/Tx RJ45 converter
065-1163FST	RS-232/422/485 fibre optic media converter, ST multimode connector 2,000 meter span
065-1163FSC	RS-232/422/485 fibre optic media converter, SC multimode connector 2,000 meter span
065-1163FSM	RS-232/422/485 fibre optic media converter, SC singlemode connector, 20 km span
065-11DINMT	DIN rail mounting bracket for 065-11xx series media converters

SPECIFICATIONS

APPLICABLE STANDARDS
EIA RS-232, EIA RS-422. EIA RS-485, FIXED PORTS
One DB-9 serial data port meeting
EIA RS-232, EIA RS-422 and EIA RS-485

STANDARD SPECIFICATION.
Push-button switch on rear panel for DTE/DCE selection (all models)
DIP switch panel on 065-116x series for DTE/DCE selection and timer for multipoint (RS-485) environments.
Maximum distance: 1,000 meters **and**
One fibre optic port supporting either 62.5/125 micron or 50/125 micron multimode fibre optic cable, 2,000 meters maximum distance **or**
one fibre optic port supporting either 9/125 micron or 10/125 micron singlemode fibre optic cable, spanning 20 kilometers maximum distance

PERFORMANCE
Supports 5 Mbps (maximum) data transfer rate
Bit error rate (BER): <10-9

LED INDICATORS
Unit: Power
Fibre Port: LNK; RCV

PHYSICAL CHARACTERISTICS
Dimensions (L x W x H): 110 x 81 x 23 mm
Weight: 150 grams

SAFETY
UL Listed

Single Fibre WDM Converters

Signamax Connectivity Systems' Switching Single Fibre Wave Division Multiplexing (WDM) Media Converters with Link Fault Signaling allow data typically carried over two strands of fibre optic cable to be carried over a single strand of fibre optic cable, utilizing two different wavelengths to carry signals in both directions simultaneously. This technology doubles the capacity of a company's fibre optic network, allowing a carrier or an enterprise business to minimize its operational costs by eliminating or delaying the deployment of additional fibre optic capacity. These converters are available in singlemode only, and span distances of up to 40 kilometers (24.85 miles) with the 065-1176AEDLFS and 065-1176BEDLFS models.

Since WDM Switching Media Converters utilize two different wavelengths with one end of a circuit transmitting on the other end's receive frequency (and vice versa), they must be used in A/B pairs. A circuit utilizing these converters would therefore use a single strand of singlemode fibre optic cable plus one each of the 065-1176ALFS and 065-1176BLFS, or one each of the 065-1176AEDLFS and 065-1176BEDLFS and 065-1176BLFS, depending upon the distance spanned. All Signamax WDM converters are equipped with Link Fault Signaling to provide the means for an SNMP-managed switch to recognize a failure on a fibre channel or twisted-pair connection, enabling the switch to automatically route to a backup path if the connected switch is equipped with Spanning Tree Algorithm. Each WDM Media Converter provides a 10/100BaseT/TX auto-negotiating RJ45 twisted-pair connector port, and features store-and-forward switching architecture. Auto-MDIX capability on the twisted-pair port is also provided for convenient connections.

SPECIFICATIONS

APPLICABLE STANDARDS
IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3u 100BaseFX

FIXED PORTS
1 Auto-MDIX twisted-pair port meeting IEEE 802.3 10BaseT & IEEE 802.3u 100BaseTX standard specifications; Category 5 or better cable, 100 meters maximum distance for 100BaseTX, Category 3 or better cable, 100 meters maximum distance for 10BaseT
plus
1 WDM fibre optic port meeting IEEE 802.3u 100BaseFX standard specification;
9/125 micron singlemode fibre optic cable, spanning 20 kilometers maximum distance (models 065-1176ALFS and 065-1176BLFS) **or**
1 WDM fibre optic port meeting IEEE 802.3u 100BaseFX standard specification;
9/125 micron singlemode fibre optic cable, spanning 40 kilometers maximum distance (models 065-1176AEDLFS and 065-1176BEDLFS)

SIGNAMAX
CONNECTIVITY SYSTEMS
Media Converter 065-1176ALFS
10/100BaseT/TX to 100BaseFX with Link Fault Signaling, 20 km, Tx=1310 nm; Rx=1550 nm
0 km, Tx=1550 nm; Rx=1310 nm
Model 065-1176ALFS

PERFORMANCE
Latency: < 4.2 µs (LIFO) Throughput @ **100Base:** 148,809 pps (64-byte packets)

LEDs
Per unit: Power status, RJ45 port speed, Per Port: LNK/ACT, FDX/COL
Six LEDs total

PHYSICAL CHARACTERISTICS
Case dimensions (L x W x H): 110 x 81 x 23 mm (4.33 x 3.19 x 0.91")
Fibre optic interface varies with model.
Weight: 150 grams
USB power connector on the rear panel optionally powers converter from computer's USB port.

SAFETY
UL Listed

Single Fibre WDM Media Converters (Fibre type: Simplex SC Singlemode)

PART NO.	DESCRIPTION	FIBRE TYPE
065-1176ALFS	10/100BaseT/TX to 100BaseFX, SM/SC, 20 km, Tx=1,310 nm; Rx=1,550 nm	Simplex SC Singlemode
065-1176BLFS	10/100BaseT/TX to 100BaseFX, SM/SC, 20 km, Tx=1,550 nm; Rx=1,310 nm	Simplex SC Singlemode
065-1176AEDLFS	10/100BaseT/TX to 100BaseFX, SM/SC, 40 km, Tx=1,310 nm; Rx=1,550 nm	Simplex SC Singlemode
065-1176BEDLFS	10/100BaseT/TX to 100BaseFX, SM/SC, 40 km, Tx=1,550 nm; Rx=1,310 nm	Simplex SC Singlemode
065-11DINMT	DIN rail mounting bracket for 065-11xx series media converters	

Singlemode to Multimode Converters

Signamax Connectivity Systems' Singlemode to Multimode Converters provide efficient solutions for interconnecting multimode fibre LANs over longer distances by integrating singlemode fibre optic cable into the LAN. They also enable Ethernet LAN and WAN connectivity, by providing a multimode interface to singlemode fibre carrier demarcation points. Models are available for singlemode to multimode conversion between Fast Ethernet devices, or for Asynchronous Transfer Mode (ATM) applications transported over a Synchronous Optical Network (SONET). Each Media Converter is enclosed in a compact, strong metal case and includes an external power supply for stand-alone applications. They can also be installed without modification in the Signamax 065-1185 Rack Mount Chassis system, featuring redundant power supplies for high reliability in multiple converter installations.

SPECIFICATIONS

APPLICABLE STANDARDS
Ethernet IEEE 802.3u
Asynchronous Transfer Mode (ATM)
155 Mbps Specifications (model 065-1190)
Asynchronous Transfer Mode (ATM)
622 Mbps Specifications (model 065-1190HS)
Synchronous Optical Network (SONET)
Optical Carrier – 3 (OC-3) Specifications
(model 065-1190)
Synchronous Optical Network (SONET)
Optical Carrier – 12 (OC-12)
Specifications (model 065-1190HS)
Synchronous Digital Hierarchy (SDH)
STM-1 Specifications (model 065-1190)
Synchronous Digital Hierarchy (SDH)
STM-4 Specifications (model 065-1190HS)

FIXED PORT SPECIFICATIONS
models 065-1130, 065-1130ED, 065-1130XLD:
ST connector; 2,000 meters max. distance
100BaseFX multimode fibre optic interface,
models 065-1132, 065-1132ED, 065-1132XLD:
SC connector; 2,000 meters max. distance
100BaseFX multimode fibre optic interface,
models 065-1130, 065-1130ED, 065-1130XLD, 065-1132, 065-1132ED & 065-1132XLD:
SC connector, 100BaseFX singlemode fibre interface; Standard model: 15 kilometers max. distance
ED model: 40 kilometers max. distance
XLD model: 75 kilometers max. distance
SONET OC-3 / ATM 155 Mbps multimode fibre optic interface, model 065-1190:
ST connector; 2,000 meters max. distance
SONET OC-3 / ATM 155 Mbps singlemode fibre optic interface, model 065-1190:
SC connector; 20 kilometers max. distance
SONET OC-12 / ATM 622 Mbps multimode fibre optic interface, model 065-1190HS:
ST connector; 2,000 meters max. distance
SONET OC-12 / ATM 622 Mbps singlemode fibre optic interface, model 065-1190HS:
SC connector; 20 kilometers max. distance

PERFORMANCE
Delay: less than 21 bit times

PHYSICAL CHARACTERISTICS
Case dimensions (L x W x H):
110 x 81 x 23 mm
(4.33 x 3.19 x 0.91")
Fibre optic interface varies with model.
Weight: 150 grams

SAFETY
UL Listed

Model 065-1130

Singlemode to Multimode Converters

PART NO.	DESCRIPTION
065-1130	100BaseFX SC Singlemode (15 km span) to ST Multimode
065-1130ED	100BaseFX SC Singlemode (40 km span) to ST Multimode
065-1130XLD	100BaseFX SC Singlemode (75 km span) to ST Multimode
065-1132	100BaseFX SC Singlemode (15 km span) to SC Multimode
065-1132ED	100BaseFX SC Singlemode (40 km span) to SC Multimode
065-1132XLD	100BaseFX SC Singlemode (75 km span) to SC Multimode
065-1190	ATM 155 Mbps / SONET OC-3 SC Singlemode (20 km span) to SC Multimode
065-1190HS	ATM 622 Mbps / SONET OC-12 SC Singlemode (20 km span) to SC Multimode
065-11DINMT	DIN rail mounting bracket for 065-11xx series media converters

12-Port Rack Mount Media Converters

The Signamax 065-1200 12-Channel Rack Mount Media Converter is a perfect solution for large installations that utilize many of the same type of media converters. The 065-1200 contains 12 channels of media conversion in a standard rack mountable case only one rack unit high. This extremely high port density allows the maximum number of media converter channels per rack for enterprise-level businesses and carriers. Redundant fan-cooled power supplies ensure maximum system uptime.

The 065-1200 has a choice of configurations, utilizing the same technology and connector types as the standalone media converters in the 065-1100 series for 10/100BaseT/TX to 100BaseFX conversion. Standard or Link Fault Signaling (LFS) versions are available. In addition, the 065-1200 can be optionally equipped with twelve channels of Gigabit Ethernet 1000BaseT to 1000BaseSX media conversion, replacing twelve 065-1195 converters.

Model 065-1200

12-Port Rack Mount Media Converter

PART NO.	DESCRIPTION
065-1200ST00	10/100BaseT/TX to 100BaseFX Converters ST Multimode
065-1200SC10	10/100BaseT/TX to 100BaseFX Converters SC Multimode
065-1200VF70	10/100BaseT/TX to 100BaseFX Converters VF45 Multimode
065-1200MT72	10/100BaseT/TX to 100BaseFX Converters MTRJ Multimode
065-1200LC74	10/100BaseT/TX to 100BaseFX Converters LC Multimode
065-1200SC20	10/100BaseT/TX to 100BaseFX Converters SC Singlemode (15 km span)
065-1200SC20ED	10/100BaseT/TX to 100BaseFX Converters SC Singlemode (40 km span)

Please see specification sheet for additional configurations.
Add "LFS" to the above part numbers for Link Fault Signaling version. Also gigabit models available.

SPECIFICATIONS

APPLICABLE STANDARDS
IEEE 802.3 10BaseT. IEEE 802.3u 100BaseTX
IEEE 802.3u 100BaseFX. IEEE 802.3ab 1000BaseT
IEEE 802.3z 1000BaseSX

FIXED PORTS
Twelve channels of media conversion, each with a twisted pair port and a corresponding fibre optic port meeting either of the following specifications:
065-11xx series and 065-11xxLFS series versions:
10/100BaseT/TX to 100BaseFX, multimode fibre; choice of SC, ST, VF45 or MTRJ connectors; maximum distance: 2,000 meters
10/100BaseT/TX to 100BaseFX, singlemode fibre, SC connectors; MTRJ connectors available on request. Maximum distance: up to 75 kilometers

LEDs:
Per unit: Power status, Speed (2 LEDs)
Per port: LNK/ACT, FDX/COL (2 LEDs)

065-1195 version:
1000BaseT to 1000BaseSX, multimode fibre, SC connectors; MTRJ connectors available on request. Maximum distance, 1000BaseSX port:
220 meters over 62.5 micron multimode fibre or 550 meters over 50/125 micron multimode fibre (full duplex only)

LEDs:
Per unit: Power status, FDX/COL, TX, RX (4 LEDs)
Per port: LNKF for fibre port, LNKC for copper port (1 LED each)

PHYSICAL CHARACTERISTICS
Dimensions (W x D x H):
440 x 205 x 45 mm (17.3 x 8.0 x 1.8")
Weight: 3.1 kg maximum
Standard 19" rack mounting (hardware included)

SAFETY
UL 1950

16-Bay Media Converter Rack Mount Chassis

The Signamax 065-1185 16-Bay Media Converter Rack Mount Chassis provides higher rack mount media converter density for large installations that can accommodate rear access to the chassis for power supply maintenance. The 065-1185 provides 16 bays of space for all 065-11xx series Signamax media converters in a standard two rack unit high enclosure. High port density allows a variety of media converter solutions to be utilized in a minimum amount of rack space for enterprise-level businesses and carriers. Redundant, fan-cooled load-sharing power supplies can be hot-swapped to ensure maximum system uptime.

The 065-1185 has a choice of power supply configurations, supporting AC power for 110 volt or 220 volt power systems or -48 volt DC power for carrier operations.

Model 065-1185

16-Bay Media Converter Rack Mount Chassis

PART NO.	DESCRIPTION
065-1185	16-Bay Rack Mount Media Converter Chassis System, includes 2 Redundant AC Power Supplies & 4 Fan Cooling Assemblies
065-1185DC	16-Bay Rack Mount Media Converter Chassis System, includes 2 Redundant -48 V DC Power Supplies & 4 Fan Cooling Assemblies
FO-AC-1185	Spare Redundant AC Power Supply for 16-Bay Chassis
FO-DC-1185	Spare Redundant -48 V DC Power Supply For 16-Bay Chassis
FO-1185FAN	Spare Individual Fan Assembly For 16-Bay Chassis

SPECIFICATIONS

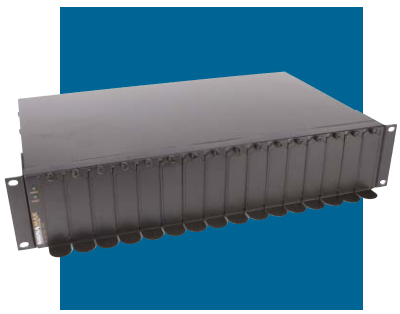
CAPACITY
Sixteen bays, for up to sixteen 065-11xx series media converters.

LEDs
Power 1/Power 2: Power supply on-line

SAFETY
UL 1950 listed
Cooling Fans: UL/cUL/TUV Listed/Approved.

PHYSICAL CHARACTERISTICS
Dimensions (L x W x H): 440 x 276 x 90 mm (17.3 x 10.9 x 3.5")
2 standard rack units
Weight: Approximately 8.5 kg, fully loaded

POWER SUPPLIES
Load-sharing and hot-swappable; 2 supplied as standard equipment. AC and -48 Volt DC units available.
Power status LED on each power supply, as well as remote status LEDs on front panel.



Model 065-1185

18-Bay Rack Mount Managed Media Converter Chassis System

The Signamax™ 065-1480 18-Bay Managed Media Converter Rack Mount Chassis provides full SNMP management capabilities for mission-critical installations. The 065-1480 provides 18 bays of space for all 065-14xx series Signamax managed media converters in a standard 2U high enclosure. It also includes the 065-1481 Management Module, which communicates with the Signamax 065-14xx series media converters on the chassis' backplane. It provides full status information on the individual media converter's ports and allows the advanced management capabilities of the 065-14xx series managed media converters to be switched on or off remotely and individually. Diagnostic testing from a centralized location avoids unnecessary technician dispatch. Alarm traps can be sent to up to five remote IP addresses simultaneously, allowing integration within a variety of Network Management Systems. In-band and out-of-band management are supported by local and remote Telnet console Command Line Interface (CLI), a web browser-based Graphical User Interface (GUI), and a menu-driven interface.

Two fully redundant, load-sharing power supplies are standard, to ensure continued availability of the media converters in the event of a power supply failure. Either power supply is hot-swappable and can be taken off-line and removed from the unit while the media converters are operating; the media converters themselves are also hot-swappable. The 065-1480 also ships standard with three fully redundant, load-sharing cooling fans to ensure reliable operation.

Model 065-1480

18-Bay Rack Mount Managed Media Converter Chassis System

PART NO.	DESCRIPTION
065-1480	18-Bay Rack Mount Managed Media Converter Chassis System; includes 065-1481 SNMP Management Module, 2 Redundant AC Power Supplies, & 3 Fan Cooling Assemblies
065-1480DC	18-Bay Rack Mount Media Converter Chassis System; includes 065-1481 SNMP Management Module, 2 Redundant -48 V DC Power Supplies, & 3 Fan Cooling Assemblies
065-1481	Spare SNMP Management Module
AC-1480	Spare Redundant AC Power Supply for 18-Bay Chassis
DC-1480	Spare Redundant -48 V DC Power Supply For 18-Bay Chassis
1480FAN	Spare Individual Fan Assembly For 18-Bay Chassis

SPECIFICATIONS

065-1480 Chassis

CAPACITY
Eighteen bays for up to eighteen 065-14xx Media Converters

CONSTRUCTION
SECC zinc-coated steel

COOLING
One 42.5 cfm rear-mounted fan, plus one fan for each of the two redundant power supplies.

LEDs
Power (2x): Power supply on-line
FAN (3x): Fan status

DIMENSIONS (W x D x H)
440 x 276 x 90 mm
(17.3 x 10.9 x 3.5")
2 standard rack units

WEIGHT
Approximately 29.7 pounds
(13.5 kilograms), fully loaded

POWER SUPPLIES—LOAD SHARING AND HOT-SWAPPABLE
(2 supplied as standard equipment)
Input:
model 065-1480: 90 – 240 Volts AC, 47 – 63 Hz
model 065-1480DC: -48 Volts DC
Output:
Normal +12 Volts DC (Min. +11.88 Volts, max. +12.12 Volts, 7.0 Amps)
Total Regulation:
+/-1.0%, Rip. 120 mV, Load 1.0%, Line 0.5%
Overload Protection:
All outputs protected against short circuit conditions; automatic recovery
Excess Voltage Protection:
Output level exceeding 13.2 Volts causes shutdown; automatic recovery
Temperature:
Operating: 0° – 40°C
Storage: -25° – 70°C
EMI: FCC Part 15 Class A, CE Class A
Safety: UL 1950 Listed

065-1481 Management Module

PROTOCOLS SUPPORTED
TCP, UDP, ICMP, IP, ARP

SERVICE
HTTP, Telnet, SNMP, TFTP

PORTS
DB-9 Serial Data (x1),
RJ45 10/100BaseT/TX (x1)

LEDs
Power, System, Alert, 10/100 speed, Link/ACT

MIB SUPPORTED
MIB II, RMON

PHYSICAL CHARACTERISTICS
Storage temp.: -40° – 80°C
Operating temp.: 0° – 50°C
Maximum altilude: 10,000 ft.
Dimensions (L x W x H):
171.5 x 69 x 21.5 mm (6.75 x 2.72 x 0.85")
Weight: 115 grams
EMI: FCC Part 15 Class A, CE Class A

NETWORK CONNECTIVITY SYSTEMS

SIGNAMAX
CONNECTIVITY SYSTEMS

Ethernet Switches

- 10/100 Mini Desktop Switches
- 10/100 16-Port Desktop Switches
- 10/100 Rackmount Switches
- 10/100 WebSmart Switches
- Gigabit Access Switch
- Gigabit Access Switches Stackable/PoE
- Gigabit Desktop Switches
- Gigabit Rackmount Switches
- Gigabit WebSmart Switches
- Gigabit Management Switch
- Gigabit Management PoE Switches
- Fibre Desktop Access Switch
- Fibre Rackmount 100BaseFX Switch
- Fibre Rackmount 100FX Managed Switch
- Fibre Gigabit Acces Switch
- 4-Port Broadband Access Router
- Fibre Modules for Gigabit Switches

5- & 8-Port 10/100 Desktop Switches

Model 065-7025A

Signamax Connectivity Systems' Desktop Switches makes it easy to increase user capacity and let 10 and 100 Mbps devices directly communicate with each other. Full duplex mode multiplies total network capacity by providing up to 200 Mbps bandwidth per port rather than sharing 100 Mbps bandwidth between hub users, and segments networks for improved performance by forwarding traffic only to the users to whom the message was sent. Auto-sensing speed feature automatically handles both 10 Mbps and 100 Mbps users.

State-of-the-art switches provide a straightforward upgrade from hub-based shared Ethernet using your existing investment in hardware, cabling and personnel training. By combining simple installation with dual-speed flexibility and scalable expansion, Signamax Ethernet switches virtually guarantee high network performance. Now is an even more compact size for easy placement.

Model 065-7028A

FEATURES

- **Non-blocking Performance Improves Access to Network Resources**
- **Five/eight Independent Bandwidths with 10 – 200 Mbps Capability**
- **All Ports Support Auto-negotiation and Auto-MDI/MDI-X to Facilitate Installation and Troubleshooting**
- **Full Wire Speed Store-and-Forward Technology Instantly Eliminates Bad Packets**
- **Automatic Source Address Learning and Aging**
- **Support 1K MAC Address**
- **Built-in High Efficiency SRAM for Packet Buffer**
- **Support IEEE 802.3x Flow-control for Full-duplex and Back-pressure Flow-Control for Half-duplex**
- **Delicate Plastic Palm Size with an External Power Adapter**
- **Easy-to-Understand LEDs Display Real-time Traffic Status to Monitor and Diagnose the Network**
- **Built-in High Efficiency SRAM for Packet Buffer**
- **Broadcast Storm Filter, Runt and CRC Filtering Eliminate Erroneous Packets to Optimize the Network Bandwidth**
- **Support Power Saving Mode by Cable Detection**

SPECIFICATIONS

APPLICABLE STANDARDS
IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3x Flow Control
ANSI/IEEE 802.3 NWay Auto-negotiation

PORTS
Model 065-7025A: 5 – RJ-45 10/100BaseT/TX Auto-MDI ports
(IEEE 802.3 10BaseT; 802.3u 100BaseTX)
Models 065-7028/065-7028A:
8 – RJ-45 10/100BaseT/TX ports
(IEEE 802.3 10BaseT; 802.3u 100BaseTX)
16 – RJ-45 10/100BaseT/TX ports
(IEEE 802.3 10BaseT; 802.3u 100BaseTX)

PERFORMANCE
Throughput: 148,809 pps (64-byte packets)
Switch Fabric Speed: 065-7025: 1.0 Gbps, 065-7028: 1.6 Gbps

PHYSICAL CHARACTERISTICS
Dimensions (L x W x H): 065-7025/8: 159 x 100 x 28 mm
Weight: 065-7025A/8: 0,3kg

LEDS
Power, Full/Half Duplex, 10/100 Collision, Link/Activity (all models)

SAFETY
Power supply UL & cUL listed

Model 065-7013

Model 065-7013 back

5- & 8-Port 10/100 Desktop Switches

PART NO.	DESCRIPTION
065-7025A	5-Port 10/100BaseT/TX Desktop Ethernet Mini Switch, external power supply, plastic case
065-7028A	8-Port 10/100BaseT/TX Desktop Ethernet Mini Switch, external power supply, plastic case
065-7308PoE	8-Port 10/100BaseT/TX Desktop Ethernet Switch, 4xPoE PSE Ports
065-7013	8-Port 10/100BaseT/TX Desktop Ethernet Switch, external power supply, metal case

Fast Ethernet 16-Port Desktop Switches

The Signamax 16-port Ethernet Switches are designed to allow simultaneous transmission of multiple packets via an internal high-speed data channel. This means that it can partition a network more efficiently than bridges or routers in most environments. Signamax 16-port Ethernet Switch is a highly reliable network Switch and is the ideal device for bridging Ethernet to Fast Ethernet workgroups or networks. Simple and cost-effective, the Signamax Switch supports IEEE 802.3 10Base-T Ethernet and IEEE 802.3u 100Base-TX Fast Ethernet. This Switch is therefore fast being recognized as one of the most important building blocks of current networking technology. The front panel of the Switch provides LEDs for easy recognition of the Switch operation status and for troubleshooting. These LEDs display the power status of the system and link status speed, collision and receives status for each port. With Signamax 16-port Ethernet Switch designed specifically for connecting workgroup devices and desktops, companies no longer have to invest in expensive and inflexible switches engineered primarily for backbone implementations. Instead, companies can deploy scaleable, affordable Switch that increases the aggregate bandwidth of the network by boosting throughput to the workgroups that need it most.

Model 065-7032A

Fast Ethernet 16-Port Desktop Switches

PART NO.	DESCRIPTION
K10-7031	Rackmount Kit for 065-7031 – 10" Rack
K19-7031	Rackmount Kit for 065-7031 – 19" Rack
065-7031	16-Port 10/100BaseT/TX Desktop Ethernet Switch, internal power supply, metal case
065-7032A	16-Port 10/100BaseT/TX Desktop Ethernet Switch, external power supply

SPECIFICATIONS

APPLICABLE STANDARDS
IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3x Flow Control
ANSI/IEEE 802.3 NWay Auto-negotiation

PORTS
16 – RJ-45 10/100BaseT/TX ports
(IEEE 802.3 10BaseT; 802.3u 100BaseTX)

PERFORMANCE
Throughput: 148,809 pps (64-byte packets)
Switch Fabric Speed: 065-7031: 3.2 Gbps

PHYSICAL CHARACTERISTICS
Dimensions L x W x H: 065-7031: 165 x 105 x 28 mm
Weight: 065-7031: 1,1 kg

LED STATUS INDICATORS
Power, Full/Half Duplex, 10/100 Collision, Link/Activity (all models)

SAFETY
Power supply UL & cUL listed

Model 065-7031

10/100BaseT/TX Rack Mount Unmanaged Ethernet Switch

Signamax Connectivity Systems' 10/100BaseT/TX Ethernet Switches feature 16 or 24 10/100 ports, with the K19-7031 + 065-7031 and 065-7341 model offering an optional 100BaseFX multimode or singlemode fibre module for longer distance network connections. Fibre optic multimode or singlemode expansion module options allow installation of fibre cabling anywhere within your existing copper-based network. These model transparently pass packets of up to 1,522 bytes, allowing their use in networks utilizing IEEE 802.1p and IEEE 802.1Q tagged packets. In addition, these models support 8K MAC addresses, and provide a true non-blocking switching architecture with full wire speed forwarding. The Signamax K19-7031 + 065-7031, and 065-7341 Switches provide a lower-cost answer to today's computing needs and high bandwidth requirements.

Model 065-7341

10/100BaseT/TX Rack Mount Switches

PART NO.	DESCRIPTION
065-7031 + K19-7031	16-Port 10/100BaseT/TX Switch
065-7341	24-Port 10/100BaseT/TX Switch

SPECIFICATIONS

APPLICABLE STANDARDS
IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3u 100BaseFX
IEEE 802.3x Flow Control

LEDs
Per Unit: Power
Per Port: LNK/ACT; 100 Mbps speed indicator

PHYSICAL CHARACTERISTICS
Dimensions (W x D x H):
440 x 140 x 44 mm (17.3 x 5.5 x 1.74")
Weight: 2.8 kg

MEMORY
Packet Buffer Size: 2.5 Mb shared packet buffers

PORTS
24 – Fixed 10/100BaseT/TX ports, RJ45 connectors with Auto-MDIX (IEEE 802.3u Type 10BaseT & 100BaseTX)
Maximum distance:
IEEE 802.3 10BaseT – 2-pair UTP Cat. 3, 4, 5 or better, up to 100 meters
IEEE 802.3u 100BaseTX – 2-pair UTP Cat. 5 or better, up to 100 meters

PERFORMANCE
Throughput: 148,800 pps at 100 Mbps
14,880 pps at 10 Mbps (64-byte packets)
MAC Address
Table Size: 8K entries

ENVIRONMENT
Operating:
Temperature: 0° – 40°C
Relative Humidity: 10-90%, non-condensing
Altitude: 3,048 meters
Non-Operating/Storage:
Temperature: -25° – 70°C
Relative Humidity: 10-90%, non-condensing

EMISSIONS
FCC part 15 Class A
CE Mark Class A

16- & 24-Port WebSmart 10/100 Managed Ethernet Switches

Signamax Connectivity Systems' WebSmart 10/100 Ethernet Switches feature 16 or 24 10/100 ports, an optional 100BaseFX multimode or singlemode fibre module for longer distance network connections, and easy web-based administration. Fibre optic multimode or singlemode expansion module options allow installation of fibre cabling anywhere within your existing copper-based network. These switches also include advanced support for port-based Virtual Local Area Networking (VLAN) and multi-port inter-switch trunking for use in larger-scale networks. WebSmart administrative and configuration capabilities provide network administrators with powerful, easy-to-use tools to reduce unnecessary broadcast traffic, flexibly segment networks, and enhance network security—either by a local cable connection or remotely from any convenient location using a standard web browser.

Model 065-7541A

Model 065-7531A

Model 065-7541A

Model 065-75SC

Model 065-75ST

16- & 24-Port WebSmart 10/100 Ethernet Switches

PART NO.	DESCRIPTION
065-7531A	16-Port 10/100T/TX WebSmart 10/100 Switch + 1x Fast Ethernet Fibre Slot
065-7541A	24-Port 10/100T/TX WebSmart 10/100 Switch + 1x Fast Ethernet Fibre Slot
Expansion Modules	
065-75SC	100BaseFX Expansion Module For 10/100 Switch – SC Multimode
065-75ST	100BaseFX Expansion Module For 10/100 Switch – ST Multimode
065-75SM	100BaseFX Expansion Module For 10/100 Switch – SC Singlemode (15 km span)

SPECIFICATIONS

APPLICABLE STANDARDS
IEEE 802.3 10BaseT, IEEE 802.3u 100BaseTX
IEEE 802.3u 100BaseFX, IEEE 802.3x Flow Control

PORTS
16 – RJ45 10/100BaseT/TX Auto-MDIX ports (IEEE 802.3 Type 10BaseT; 802.3u Type 100BaseTX)
24 – RJ45 10/100BaseT/TX Auto-MDIX ports (IEEE 802.3 Type 10BaseT; 802.3u Type 100BaseTX)
1 – open 100BaseFX interface slot
1 – RJ45 10/100BaseT/TX local console port

ADMINISTRATIVE CAPABILITY
WebSmart console port access via 10/100BaseT/TX connection or via web browser with assigned IP address; permits manual setting of port speed, port duplexity, Flow Control enablement/disablement, as well as establishment and administration of VLAN and/or trunking.

LEDs
Per Switch: Power
Per Console Port: Link, Activity
Per Port: Link/Activity, 100 Mbps Speed

PERFORMANCE
Latency: < 6.0 µs (FIFO)
Throughput: 148,810 pps (64-byte packets)
Switch Fabric Speed:
model 065-7531A: 3.6 Gbps
model 065-7541A: 6.8 Gbps
Address Table Size:
model 065-7531A: 2K MAC addresses
model 065-7541A: 8K MAC addresses

PHYSICAL CHARACTERISTICS
Dimensions (W x D x H): 440 x 207 x 44 mm
Weight: Approximately 2.8 kg

EMISSIONS
FCC Class A, CE Mark

SAFETY
UL 1950, CSA, TUV/GS

Gigabit Access Switch

The Signamax Gigabit Access Switch 065-7737 with Mini GBIC and SNMP is a powerful, high-performance, layer 2 web-managed SNMP switch, which provides 24*10/100 Mbps Fast Ethernet ports, 2*Gigabit Ethernet ports and 2*mini-GBIC (Mini Gigabit Interface Converter) slots. The 2 Gigabit ports act as the robust pipe which link to the server or backbone for boosting the total system performance. The mini-GBIC slot enables Fibre connections. Either fibre or cooper can be used as the media to connect the Gigabit ports. The cooper Gigabit and mini GBIC ports can be automatically detected and connected.

For network management, the switch is SNMP compatible. Network administrators are allowed to do centralized network management efficiently via remote monitor and control. Also, the performance and security can be enforced easily by the user-friendly web based interface. In addition to the SNMP and Web-based management interface, management through console port is also provided for users to manage the switch in a more flexible way.

To make efficient bandwidth usage, the device not only supports port based VLAN but also provides users with 802.1Q tag based VLAN. Meanwhile, the embedded trunk function allows 7 aggregation groups that up to 4 members within to enlarge the bandwidth between switches. Also, the IGMP snooping and spanning tree are supported to make an unobstructed network.

With sufficient compatibility, the switch is designed to be compliant to all network protocols. Alone with all copper ports are of MDI/MDI-X supporting; users would be able to reduce effort on network infrastructure. The rich diagnostic LEDS and total front panel access design also help with convenient installation and maintenance.

Gigabit Access Switch

PART NO.	DESCRIPTION
065-7737	Gigabit Switch 24-port 10/100BaseT plus 2 Gigabit Dual Media Ports

SPECIFICATIONS

KEY FEATURES

- Complies with IEEE 802.3, IEEE 802.3u, IEEE802.3x, IEEE 802.3z/ab standards
- Complies with IEEE802.1Q VLAN tag (IVL)
- Complies with IEEE802.1p CoS with 2-level priority
- 24* RJ45 ports for 10/100 Mbps
- 2* RJ45 ports for Gigabit
- 2* Mini GBIC Slots for Flexible Fibre Connection
- Every switching port is automatically cross-over detection (MDI/MDI-X auto-detected)
- The 24* RJ45 ports support bandwidth control
- Supports IGMP snooping
- Supports MIB counters
- Supports port sniffing
- Supports Port Aggregation and up to 7 groups
- Supports port group VLAN and up to 26 groups
- Supports 802.1Q VLAN and up to 255 groups
- Supports 802.1D Spanning Tree
- One RS-232 female console connector
- Supports 8 MB SDRAM for run time data storage
- Supports 2 MB Flash EPROM for cooperation and configuration data storage
- Supports 6K MAC entries
- Supports 3 Mbit packet buffer
- 19” rack mountable
- Internal universal switching power supply
- FCC VCCI Class A, CE

PRODUCT SPECIFICATIONS

Standard
IEEE802.3, IEEE802.3u, IEEE802.3x, IEEE802.3z/ab, IEEE802.1Q, IEEE802.1p, IEEE802.1D standards
Interface
24* 10/100 Mbps RJ45 ports
2* Gigabit+Mini GBIC ports
One Reset button
One RS-232 console port
Protocol Support
Network speed: 10 Mbps, 100 Mbps and 1,000 Mbps
Duplex mode: Full and Half
Software
Embedded web-based management interface
Telnet, SNMP for remote management
Emission: FCC VCCI Class A, CE

LEDs
System: Power, Status
Port: 24* 10/100 Mbps ports
10/100 Mbps (Link; ACT)
2* 10/100/1,000 Mbps ports
1,000 Mbps (Link/Act)
100 Mbps (Link/Act)
10 Mbps (Link/Act)

ENVIRONMENT
Operating Temperature: 0° – 400°C
Operating Humidity: 10-90% (non-condensing)
Power Supply: 100 – 240 VAC, 50 – 60 Hz

Gigabit Access PoE and Stackable Switches

Signamax Connectivity Systems' new stackable Gigabit Ethernet Power over Ethernet (PoE) Access Switch provides the capability to remotely power wireless access points, VoIP telephones, Powered Device (PD) media converters, and other devices that meet the IEEE 802.1af PoE standard. These switches provide non-blocking performance for two 10/100/1000BaseT/TX Dual Media Gigabit Ethernet ports plus 24 10/100BaseT/TX PoE-equipped ports. The 065-7726SPOE switch shares the same SNMP management package as its 065-7726S counterpart. Both ring and star Gigabit backbone network architectures are supported with full automatic failover AND PoE extension to every workstation. Enhanced Layer 3 look-ahead routing features and IEEE 802.1p Quality of Service / 802.1Q Tagged VLAN / IP Type of Service support make the Signamax 065-7726SPOE switch the cost-effective choice for creating an infrastructure capable of supporting Voice over IP telephony and wireless access.

Model 065-7726SPOE

Gigabit Ethernet Power over Ethernet (PoE) Access Switch

PART NO.	DESCRIPTION
065-7710	Desktop Switch, 10-port 10/100BaseT + 2x SFP, Management
065-7726S	Rackmount Switch 24-Port 10/100BaseT, 2x SFP, Management, Stackable
065-7726SPOE	PoE, Rackmount Switch 24-port 10/100BaseT, 2x SFP, Management, Stackable

SPECIFICATIONS

APPLICABLE STANDARDS
IEEE 802.3 10BaseT, IEEE 802.3u 100BaseTX
IEEE 802.3ab 1000BaseT
IEEE 802.3af Power over Ethernet (PoE)
IEEE 802.3z 1000BaseSX/LX
IEEE 802.1p Priority (Quality of Service [QoS])
IEEE 802.1D/802.1w/802.1s Spanning Tree & Rapid Spanning Tree Protocols
IEEE 802.1Q Tagged VLAN with "Q-in-Q" support
IEEE 802.3x Flow Control, IEEE 802.3ad Link Aggregation
IEEE 802.1x Access Control

PERFORMANCE
Latency: < 4.5 µs (LIFO)
Throughput: 1.48810 million pps (64-byte packets)
Switch Fabric Speed: 48.0 Gbps
PoE – 135W Supported

ADMINISTRATION CONSOLE
1 – RS-232C DB-9 local console serial port

PORTS
24 – RJ45 10/100BaseT/TX PoE-equipped ports
2 – Dual Media Gigabit Ethernet ports (2- RJ45 10/100/1000BaseT/TX ports with corresponding Small Form-factor Pluggable [SFP] auto-detecting ports)

Optional Interfaces:
065-77MM: 1000BaseSX SFP fibre optic module with LC multimode fibre connectors
Maximum distance: 220 meters with 62.5/125 micron fibre cabling or 550 meters with 50/125 micron fibre cabling
065-77SM: 1000BaseLX SFP fibre optic module with LC singlemode fibre connectors
Maximum distance: 10 km with 9/125 micron fibre cabling

SNMP MANAGEMENT
Console port access via RS-232 cable, Telnet remote access, SNMP agent, and Web browser
Kermit/TFTP software-upgrade capability

LEDs
Per Switch: Power, CPU
Per Port: Link/Activity (separate for SFPs), 10/100/1000 speed for RJ45 ports

PHYSICAL CHARACTERISTICS
Dimensions (W x D x H): 442 x 210 x 44 mm (17.4 x 8.3 x 1.73")
Standard 19" rack mounting (hardware included)
Weight: 3.4 kg

SAFETY
FCC Part 15 Class A & CE Mark Approval

5- and 8-Port 10/100/1000BaseT/TX Desktop Switches

Signamax Connectivity Systems' 10/1001000BaseT/TX Desktop Switches make it easy to increase user capacity and provide Gigabit Ethernet to devices in a small workgroup. Auto-sensing speed, duplex mode, and Auto-MDIX features automatically handle 10 Mbps, 100 Mbps, and 1,000 Mbps users. State-of-the-art switches provide a straight-forward upgrade from standard or Fast Ethernet, using your existing investment in hardware, cabling and personnel training. By combining simple installation with compact size, Signamax Gigabit Ethernet desktop switches virtually guarantee high network performance.

Model 065-7905A

Model 065-7908A

5 and 8-Port 10/100/1000BaseT/TX Desktop Switches

PART NO.	DESCRIPTION
065-7905A	5-Port 10/100BaseT/TX Desktop Ethernet Mini Switch
065-7908A	8-Port 10/100BaseT/TX Desktop Ethernet Mini Switch
065-7909A	8-Port 10/100BaseT/TX Desktop Ethernet Mini Switch + 2 SFP Slots, WebSmart Management
Kit-7909A	Rackmount Kit for 065-7909A Desktop Switch

Model 065-7905A back

SPECIFICATIONS

APPLICABLE STANDARDS
IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3ab 1000BaseT
IEEE 802.3x Flow Control
IEEE 802.3z 1000Base-X Ethernet
ANSI/IEEE 802.3 Auto-negotiation
IEEE 802.1q VLAN

STANDARD COMPLIANCE
8 Gigabit Ethernet ports
Auto-negotiation, Auto-MDIX
Backpressure flow control for half duplex
Flow control for full duplex
Port 7,8 are TP/SFP Fibre auto sense
Connector: 8 RJ-45 and 2 SFP module

PORTS
model 065-7905A:
5 – RJ45 10/100/1000BaseT/TX Auto-MDI ports (IEEE 802.3 Type 10BaseT; 802.3u Type 100BaseTX; IEEE Type 1000BaseT)
model 065-7908A:
8 – RJ45 10/100BaseT/TX Auto-MDI ports (IEEE 802.3 Type 10BaseT; 802.3u Type 100BaseTX; IEEE Type 1000BaseT)

PERFORMANCE
Throughput: 1,488,000 pps forwarding rate for 1,000 Mbps
148,800 pps forwarding rate for 100 Mbps
14,880 pps forwarding rate for 10 Mbps (64-byte packets)
Switch Fabric Speed:
model 065-7905A: 10 Gbps
model 065-7908A: 16 Gbps
model 065-7909A: 8 Gbps
Address Table Size:
model 065-7905A: 8K entries
model 065-7908A: 4K entries
model 065-7909A: 8K entries

PHYSICAL CHARACTERISTICS
Dimensions (W x D x H):
model 065-7905A: 171 x 98 x 29 mm
model 065-7908A: 190 x 120 x 38 mm
model 065-7909A: 132 x 217 x 44 mm
Weight:
model 065-7905A: 254 g
model 065-7908A: 395 g
Desktop or wall mounting, via slots in case.
Voltage: 100 – 240V
Frequency: 50 – 60 Hz
Consumption: 20 W
Ambient Temperature: 0° to 50°C
Storage humidity: 5-90%

LEDs
Per Switch: Power, CPU ACT, SFP
Per Port: Link/Activity, 100 Mbps, 1,000 Mbps

SAFETY
Comply with FCC Part 15 Class A & CE Mark Approval

16- & 24-Port 10/100/1000 Gigabit Ethernet Switches

Signamax Connectivity Systems' Plug-and-Play Gigabit Ethernet Switches feature 16 or 24 10/100/1000BaseT/TX twisted-pair ports to extend Gigabit Ethernet capability cost-effectively where high bandwidth is needed. Non-blocking switch architecture ensures full wire-speed throughput on all ports simultaneously.

Model 065-7930

Model 065-7940

16- & 24-Port 10/100/1000 Gigabit Ethernet Switches

PART NO.	DESCRIPTION
065-7930	16-Port 10/100/1000BaseT/TX Gigabit Ethernet Switch
065-7940	24-Port 10/100/1000BaseT/TX Gigabit Ethernet Switch

Model 065-7930/40

SPECIFICATIONS

APPLICABLE STANDARDS
IEEE 802.3 10BaseT, IEEE 802.3u 100BaseTX
IEEE 802.3u 100BaseFX, IEEE 802.3x Flow Control

PERFORMANCE
Address Table Size:
model 065-7930: 4K MAC addresses
model 065-7940: 8K MAC addresses
Latency: < 4.3 µs (FIFO)
Throughput:
10Base: 14,880 pps
100Base: 148,810 pps
1000Base: 1,488,100 pps (64-byte packets)
Switch Fabric Speed:
model 065-7930: 32.0 Gbps
model 065-7940: 48.0 Gbps

LEDs
Per Switch: Power
Per Port: Link/Activity, 1,000 Mbps Speed

PORTS
model 065-7930:
16 – RJ45 10/100/1000BaseT/TX
Auto-MDIX ports (IEEE 802.3 Type 10BaseT; 802.3u Type 100BaseTX; 802.3ab 1000BaseT)
model 065-7940:
24 – RJ45 10/100/1000BaseT/TX
Auto-MDIX ports (IEEE 802.3 Type 10BaseT; 802.3u Type 100BaseTX; 802.3ab 1000BaseT)

PHYSICAL CHARACTERISTICS
Dimensions (W x D x H):
model 065-7930:
324 mm x 231 mm x 44 mm
19" rack mount brackets are also included with this switch.
model 065-7940: 44 x 442 x 2,093 mm
Weight: 2.78 kg

EMISSIONS
FCC Class A, CE Mark

WebSmart Gigabit Ethernet Switches

Signamax Connectivity Systems' 8-Port WebSmart™ Gigabit Ethernet Switch features eight 10/100/1000BaseT/TX twisted-pair ports to extend Gigabit Ethernet to your servers and workstation users with high-bandwidth requirements. This switch also includes advanced support for port-based Virtual Local Area Networking (VLAN) and multi-port inter-switch trunking for use in larger-scale networks. WebSmart™ administrative and configuration capabilities provide network administrators with powerful, easy-to-use tools to reduce unnecessary broadcast traffic, flexibly segment networks, and enhance network security—either by a local cable connection or remotely from any convenient location using a standard web browser.

Model 065-7941

Model 065-7931

WebSmart 10/100/1000 Ethernet Switches

PART NO.	DESCRIPTION
065-7931	Gigabit Switch 16-Port 10/100/1000 TX, WebSmart, 2 Optional SFP slots for Fibre Connection
065-7941	Gigabit Switch 24-Port 10/100/1000 TX, WebSmart, 2 Optional SFP slots for Fibre Connection

SPECIFICATIONS

STANDARDS COMPLIANCE
- IEEE 802.3 10Base-T Ethernet (twisted-pair copper)
- IEEE 802.3u 100Base-T Ethernet (twisted-pair copper)
- IEEE 802.3ab 1000Base-T Ethernet (twisted-pair copper)
- IEEE 802.3z 1000Base-X Ethernet
- IEEE 802.3x Flow Control capability
- ANSI/IEEE 802.3 Auto-negotiation
- IEEE 802.1q VLAN

SUBSCRIBER INTERFACE
- 16/24 Gigabit Ethernet ports
- Auto-negotiation
- Auto-MDIX
- Backpressure flow control for half duplex
- Flow control for full duplex
- Port 15,16 or 23, 24 are TP/SFP Fibre auto sense
- Connector: 16/24 RJ45 and 2 SFP module

PERFORMANCE

Switching capacity:
32 Gbps forwarding bandwidth for switch, nonblocking switch fabric

Wire Speed Performance:
8K MAC addresses, 272 KB on-chip frame buffer, Jumbo frame support

VLAN
- Port-base VLAN
- IEEE802.1q tag-base VLAN, 4094 Max

QOS
- Supports Layer 4 TCP/UDP Port and ToS Classification
- Supports 802.1p QoS with two level priority queue

PORT TRUNK
- Port trunking with 8 trunking group
- Up to 12 ports for each group

BROADCAST STORM
- Broadcast Storm suppression

PORT MIRRORING
- All port support port mirroring

HW SPECIFIACTION:
- Power Consuption 30W max.
- **Dimensions (H x W x D):** 44 x 442 x 209 mm
- **Veight:** 2.78 kg

Gigabit Management Switch

The 065-7840/065-7850 is a L2 managed Gigabit switch that supports SNMP, Web UI and CLI management interface. It is equipped with 24/8 Giga TP ports and 2/16 Giga ports which accommodate optional SFP modules. In addition, the switch implements the QoS (Quality of Service), Mac Filtering Policy, Port Mirror, VLAN and full L2 protocol. It is suitable for workgroups or WAN edge application.

Model 065-7840

Gigabit Management Switch

PART NO.	DESCRIPTION
065-7840	Gigabit Switch 24-Port 10/100/1000 + 2 MiniGBIC Slots, Management
065-7850	Gigabit Switch 8-Port 10/100/1000 + 16 MiniGBIC Slots, Management

SPECIFICATIONS

STANDARDS COMPLIANCE
- IEEE 802.3x Flow Control capability
- IEEE 802.1q VLAN
- IEEE 802.1p

PERFORMANCE
- **Switching capacity:**
- 24 Gigabit Ethernet ports with non-blocking wise speed performance
- 8K MAC addresses
- 400 KB on-chip frame buffer
- Supports Jumbo frame support, up to 9K
- Broadcast/Multicast Storm Suppression
- Port Mirroring

VLAN
- Port-base VLAN
- IEEE802.1q tag-base VLAN, up to 256 active VLANs
- Q-in-Q is an efficient method for enabling Subscriber Aggregation

QOS
- Supports Layer 4 TCP/UDP Port and ToS Classification
- Supports 802.1p QoS with two level priority queue
- Supports priority in a Q-in-Q tag

BANDWIDTH CONTROL
- Supports bandwidth rating per port ingress and egress rate limit 1,000 Mbps with 1 Mbps increments

PROTOCOL
- LACP
- Port trunking with 8 trunking group
- Up to 12 ports for each group
- GVRP/GARP
- 802.1q with GVRP/ GARP
- Multicastingppression.ort.el priority queue
- Supports IGMP snooping including active and passive mode
- STP/RSTP
- 802.1d/1w/1s STP

NETWORK SECURITY
- 802.1x access control
- Management Access Policy Control (ACL)
- Snmpv1, v2c Network Management

HW SPECIFIACTION:
- Power Consuption 30W max.
- **Dimensions (H x W x D):** 44 x 442 x 209 mm

Signamax Gigabit POE Management Switch series

Model 065-7820POE

Signamax Gigabit switch 065-7820 POE supports 12x 10/100/1000 Mbps Auto-negotiation, Auto-MDIX Ethernet ports and Power over Ethernet to IEEE 802.3af compliant devices. It's fully compliant with the standards of IEEE 802.3/u/x/z/ab/af. It is equipped with 12 Giga TP ports and 2 of which are dual media ports that accommodate optional 10/100/1000Base-T or SFP modules. In addition, the switch implements the QoS (Quality of Service), Mac Filtering Policy, Port Mirror, VLAN and full L2 protocol. The overall network management is enhanced and the network efficiency is also improved to accommodate high bandwidth applications with security.

065-7921POE Gigabit POE Switch supports 12x10/100/1000 Mbps Auto-negotiation, Auto-MDIX Ethernet ports and Power over Ethernet to IEEE 802.3af compliant devices. It's fully compliant with the standards of IEEE 802.3/u/x/z/ab/af. With WebSmart management, the network administrator can logon the switch to monitor, and configure. In addition, 065-7921POE abounds with functions, including Jumbo frame, QoS (Quality of Service), port-based VLAN & Link Aggregation capability via the smart software. The overall network management is enhanced and the network efficiency is also improved to accommodate high bandwidth applications with security

Model 065-7921POE

Signamax Gigabit POE Management Switch series Standard compliance

PART NO.	DESCRIPTION
065-7820POE	12-port 10/100/1000BaseT, Gigabit Management switch, POE, 2 optional SFP slots for Fibre Connection
065-7921POE	12-port 10/100/1000BaseT, Gigabit Websmart switch, POE, 2 optional SFP slots for Fibre Connection

SPECIFICATIONS

APPLICABLE STANDARDS
- IEEE 802.3af PoE Standard
- IEEE 802.3 10Base-T Ethernet (twisted-pair copper)
- IEEE 802.3u 100Base-T Ethernet (twisted-pair copper)
- IEEE 802.3ab 1000Base-T Ethernet (twisted-pair copper)
- IEEE 802.3z 1000Base-X Ethernet
- IEEE 802.3x Flow Control capability
- ANSI/IEEE 802.3 Auto-negotiation
- IEEE 802.1p Priority Tag, IEEE 802.1q VLAN

SUBSCRIBER INTERFACE
- 12 Gigabit Ethernet ports, Auto-negotiation, Auto-MDIX
- Back pressure flow control for half duplex
- Flow control for full duplex
- Port 11, 12 are TP/SFP Fibre auto sense
- Connector: 12 RJ45 and 2 SFP module

PERFORMANCE

Switching capacity:
- 12 Gigabit Ethernet ports with non-blocking wire speed performance
- 8K MAC addresses, 208 KB on-chip frame buffer, Jumbo frame support

VLAN
- Port-base VLAN, IEEE802.1q tag-base VLAN, 4094 Max

QOS
- Supports Layer 4 TCP/UDP Port and ToS Classification
- Supports 802.1p QoS with two level priority queue

BANDWIDTH CONTROL
- Supports bandwidth rating per port ingress and egress rate limit 1,000 Mbps with 1 Mbps increments

PORTS TRUNK
- Ports trunking with 6 trunking group, up to 6 ports for each group

BROADCAST/MULTICAST STORM
- Broadcast Storm control

PORT MIRRORING
- All port support port mirroring

POE FEATURES
- Supports IEEE 802.3af compliant u Supports Power over Ethernet (PSE) on each Gigabit UTP port
- Full power support for per POE port 135W Supported
- Auto detect powered device and consumption levels
- Supports per port power consumption monitoring
- Smart feature for PD on/off, PD detection, power level, PD status and power feeding priority
- Circuit protection to prevent power interference between ports
- Supports per port PoE State setting
- Supports per port power priority setting
- LED indicators for POE ready and POE activity

HW SPECIFICATION:
- Power Requirement 220W or 155W
- Total Power for PoE 200W or 135W
- **Dimensions (H x W x D):** 44 x 442 x 211 mm

Compact Fibre Access Switch

Signamax' Connectivity Systems' Compact Fibre Access Switches provide the right port interface you need for fibre-extended networks. The 065-7111 series of switches allows cost-effective fibre extension to small workgroups and Programmable Logic Controller (PLC) clusters. These switches support enterprise-level network extension to distant buildings in a campus environment, and can also extend process control networks over fibre to production or control machinery equipped with PLCs at Fast Ethernet speeds. These switches, to allow administrative and production networks to coexist on the same fibre link transparently pass tagged VLAN and Quality of Service (QoS) packets used to separate and prioritize sub-networks.

Compact Fibre Access Switch

PART NO.	DESCRIPTION
065-7111SC	Multimode Compact Fibre Access Switch – SC

SPECIFICATIONS

APPLICABLE STANDARDS
IEEE 802.3 10BaseT, IEEE 802.3u 100BaseTX
IEEE 802.3u 100BaseFX, IEEE 802.3x Flow Control

PORTS
8 – Fixed 10/100BaseT/TX Auto-MDIX ports, RJ45 connectors; (IEEE 802.3u Type 10BaseT & 100BaseTX)
1 – Fixed 100BaseFX port, SC multimode – connectors (IEEE 802.3u Type 100BaseFX)
Maximum distance: 2,000 meters with 62.5/125 micron or 50/125 micron multimode fibre cabling

LEDS
Per Switch: Power
Per Port: Link/Activity

PERFORMANCE
Throughput: 148,810 pps at 100 Mbps, 14,800 pps at 10 Mbps (64-byte packets)
Switch Fabric
Speed: 1.6 Gbps
Address, Table Size: 2,048 entries

PHYSICAL CHARACTERISTICS
Dimensions (W x D x D): 254 x 135 x 35 mm
Weight: 1.6 kg

EMISSIONS
FCC part 15 Class A, CE Mark Class A, VCCI Class A

MOUNTING
Desktop or wall mounting

SAFETY
UL 1950, RoHS compatible

8-Port 100BaseFX Fibre Switch

Signamax Connectivity Systems' 8-Port 100BaseFX Fibre Switch is a plug-and-play Fast Ethernet switch that is the ultimate in easy 100Base FX fibre connection for simple multimode fibre applications. Standard 1U high non-blocking switch chassis supports eight multimode SC or eight multimode ST ports; each is equipped with a DIP switch for full or half-duplex mode selection.

8-Port 100BaseFX Fibre Switch

PART NO.	DESCRIPTION
065-7310FSC	8-Port 100BaseFX Fibre Switch – SC
065-7310FST	8-Port 100BaseFX Fibre Switch – ST

SPECIFICATIONS

APPLICABLE STANDARDS
IEEE 802.3u 100BaseFX
IEEE 802.3x Flow Control

PORTS
model 065-7310FSC:
8 – Fixed 100BaseFX ports, SC multimode
model 065-7310FST:
8 – Fixed 100BaseFX ports, ST multimode
Maximum distance:
2,000 meters with 62.5/125 micron or
50/125 micron multimode fibre cabling

LEDs
Per Switch: Power
Per Port: Link/Activity, 100 Mbps detected,
Full Duplex/ Collision

PERFORMANCE
Throughput: 148,810 packets per second (pps)
(64-byte packets)
Switch Fabric
Speed: 1.6 Gbps
Address
Table Size: 2,048 entries

PHYSICAL CHARACTERISTICS
Dimensions (W x D x D): 440 x 205 x 45 mm
(17.3 x 8.1 x 1.75")
Weight: 2.8 kg

EMISSIONS
FCC part 15 Class A,
CE Mark Class A, VCCI Class A

MOUNTING
Desktop or wall mounting

24-Port 100FX Ethernet Fibre Switch

Signamax Connectivity Systems' model 065-7640AFSC and 065-7640AFSM Fast Ethernet Fibre Switches connect workstations and servers using fibre optic cable where Gigabit Ethernet connections are not desired. These non-blocking 24-port 100BaseFX Fast Ethernet switches have SNMP, Web-browser, local terminal connection and Telnet remote terminal management capabilities included, to build a fibre-based enterprise-level network at Fast Ethernet speeds. Model 065-7640AFSC provides 24 100BaseFX multimode fibre optic ports, typically used in Local Are Network (LAN) applications. Model 065-7640AFSM provides 24 100BaseFX singlemode fibre ports, for use in carrier network applications or in LANs where longer distances need to be reached.

Model 065-7940AFSC

Fast Ethernet Fibre Switch

PART NO.	DESCRIPTION
065-7640AFSC	Fast Ethernet Fibre Switch – Multimode, SC connectors – AC Power
065-7640AFSCDC	Fast Ethernet Fibre Switch – Multimode, SC connectors – 48 V DC Power
065-7640AFSM	Fast Ethernet Fibre Switch – Singlemode, SC connectors – AC Power
065-7640AFSMDC	Fast Ethernet Fibre Switch – Singlemode, SC connectors – 48 V DC Power

SPECIFICATIONS

APPLICABLE STANDARDS
IEEE 802.3u 100BaseFX
IEEE 802.1p Priority (CoS)
IEEE 802.1D Spanning Tree
IEEE 802.1Q VLANs
IEEE 802.3x Flow Control
IEEE 802.3ad Link Aggregation

PORTS
model 065-7640AFSC:
24 – 100BaseFX ports, SC multimode connectors; span up to 2,000 meters (IEEE 802.3u 100BaseFX)
1 – RS-232C DB-9 local console serial port (Default Parameters: 115,200 bps, 8 data bits, no parity, 1 stop bit)
model 065-7640AFSM:
24 – 100BaseFX ports, SC singlemode connectors; span up to 75 kilometers (IEEE 802.3u 100BaseFX)
1 – RS-232C DB-9 local console serial port (Default Parameters: 115,200 bps, 8 data bits, no parity, 1 stop bit)

MANAGEMENT
Console port access via RS-232 cable, Telnet remote access, SNMP agent, and Web browser. Kermit/TFTP software-upgrade capability

PERFORMANCE
Latency: < 4.5 µs (LIFO)
Throughput: 1.48810 million pps (64-byte packets)
Switch Fabric
Speed: 12.0 Gbps

LEDs
Per Unit: Power status
Per Port: LNK/ACT, FDX (2 LEDs) for each 100BASE-FX port

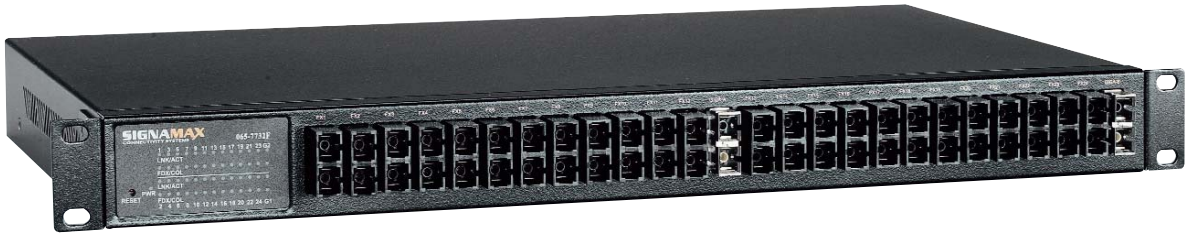
PHYSICAL CHARACTERISTICS
Dimensions (W x D x D): 440 x 415 x 45 mm
Standard 19-in rack mounting (hardware included)
Weight: 3.4 kg

POWER
AC Input: 100 – 260VAC, 47 – 63 Hz internal universal power supply **or**
DC Input: 48VDC, LUG Type – 2 pin connector block; internal DC power supply, Specification applies to each of two included redundant, load-sharing, hot-swappable power supplies.

SAFETY
UL 1950

24-Port Gigabit Ethernet Fibre Switch

Signamax Connectivity Systems' model 065-7732AFSC Multimode and 065-7732AFSM Singlemode Fibre Gigabit Ethernet Access Switches are the most cost-effective way to extend fibre to the desktop from a Gigabit Ethernet fibre backbone. Model 065-7732FSC provides two 1000BaseSX multimode fibre optic ports plus 24 100BaseFX multimode fibre optic ports, typically used in Local Area Network (LAN) applications. Model 065-7732FSM provides two 1000BaseLX singlemode fibre optic ports plus 24 100BaseFX singlemode fibre ports, for use in applications where greater distances need to be reached, or in carrier networks where singlemode fibre is the distribution media of choice. SNMP, Web-browser, local terminal connection and Telnet remote terminal management capabilities are included.



Fibre Gigabit Ethernet Access Switch

PART NO.	DESCRIPTION
065-7732AFSC	Multimode Fibre Gigabit Ethernet Access Switch – AC Power
065-7732AFSCDC	Multimode Fibre Gigabit Ethernet Access Switch – 48 V DC Power
065-7732AFSM	Multimode Fibre Gigabit Ethernet Access Switch – AC Power
065-7732AFSMDC	Multimode Fibre Gigabit Ethernet Access Switch – 48 V DC Power

SPECIFICATIONS

APPLICABLE STANDARDS
IEEE 802.3u 100BaseFX
IEEE 802.3z 1000BaseSX
IEEE 802.3z 1000BaseLX
IEEE 802.1p Priority (CoS)
IEEE 802.1D Spanning Tree
IEEE 802.1Q VLANs
IEEE 802.3x Flow Control
IEEE 802.3ad Link Aggregation

PORTS
model 065-7732AFSC:
24 – Fixed 100BaseFX ports, SC multimode connectors (IEEE 802.3u 100BaseFX). Maximum distance: 2,000 meters with 62.5/125 micron or 50/125 micron multimode fibre cabling.
2 – Fixed 1000BaseSX Gigabit Ethernet ports, SC multimode connectors (IEEE 802.3z 1000BaseSX) Maximum distance: 220 meters with 62.5/125 micron multimode fibre cabling or 550 meters with 50/125 micron multimode fibre cabling
1 – RS-232C DB-9 local console serial port (Default Parameters: 115,200 bps, 8 data bits, no parity, 1 stop bit)

model 065-7732AFSM:
24 – Fixed 100BaseFX ports, SC singlemode connectors (IEEE 802.3u 100BaseFX). Maximum distance: 75 kilometers with 9/125 micron singlemode fibre cabling
2 – Fixed 1000BaseLX Gigabit Ethernet ports, SC singlemode connectors (IEEE 802.3z 100BaseLX) Maximum distance: 20 kilometers with 9/125 micron singlemode fibre cabling
1 – RS-232C DB-9 local console serial port (Default Parameters: 115,200 bps, 8 data bits, no parity, 1 stop bit)

MANAGEMENT
Console port access via RS-232 cable, Telnet remote access, SNMP agent and Web browser
Kermit/TFTP software-upgrade capability

PERFORMANCE
Latency: < 4.5 µs (LIFO)
Throughput: 1.48810 million pps (64-byte packets)
Switch Fabric Speed: 12.0 Gbps

LEDs
Per Unit: Power status
Per Port: LNK/ACT, FDX (2 LEDs) for each 100BASE-FX port

PHYSICAL CHARACTERISTICS
Dimensions (W x D x D):
440 x 415 x 45 mm (17.4 x 16.4 x 1.8")
Standard 19-in rack mounting (hardware included)
Weight: 3.4 kg

POWER
AC Input: 100 – 260VAC, 47 – 63 Hz internal universal power supply
or
DC Input: 48VDC, LUG Type—2 pin connector block; internal DC power supply
Specification applies to each of two included redundant, load-sharing, hot-swappable power supplies

SAFETY
UL 1950

4-Port Broadband Access Router

The Signamax 065-1507 Broadband Access Router is an intelligent solution for sharing Calble Modem or DSL services between home computers, small office computers, or branch office installlation. The built-in 4-port switch facilitates file sharing at either 10 Mbps or 100 Mbps, automatically determining the fastest possible connection speed and duplex mod. It also provides print server capabilities as well, to allow printer sharing between users without requiring a particular computer to be left on at all times. The 065-1507 Broadband Router incorporates a hardware-based firewall, securing your PCs from unwanted outside users breaking into your files an possibly using your PCs for illegal purposes.

4-Port Broadband Access Router

PART NO.	DESCRIPTION
065-1507	4-Port Broadband Access Router w. USB printer port

FEATURES

- **Allows multiple PCs to share one Internet connection**
- **Built-in firewall to protect your computers**
- **Integrated 4-port 10/100BaseT/TX auto-sensing Fast Ethernet LAN switch**
- **WAN Port**
- **Built-in print server**
- **Web browser-based configuration and management**
- **DHCP Server**
- **Dynamic DNS**
- **Virtual Server**
- **Port Filter**

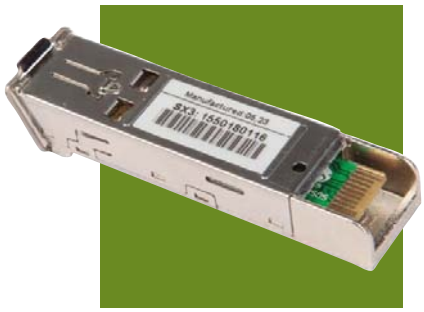
SPECIFICATIONS

PORTS:
4x RJ45 10/100BaseT/TX Local Area Network (LAN) ports
1x RJ45 10/100BaseT/TX Wide Area Network (WAN) port
1x DB-25 female parallel printer port
1x Serial Port

SUPPORTED PLATFORMS:
Win95/98/NT/2000XP; Unix LPR
Web-based configuration and management
Power, 10/100, System Status, LAN Link/Activity, WAN Link/Activity
External AC Power Supply
Desktop and wall mounting
Power supply UL & cUL listed
FCC Part 15 Class B, CE Mark B, VCCI-B

SFP Fibre Modules

065-77SM

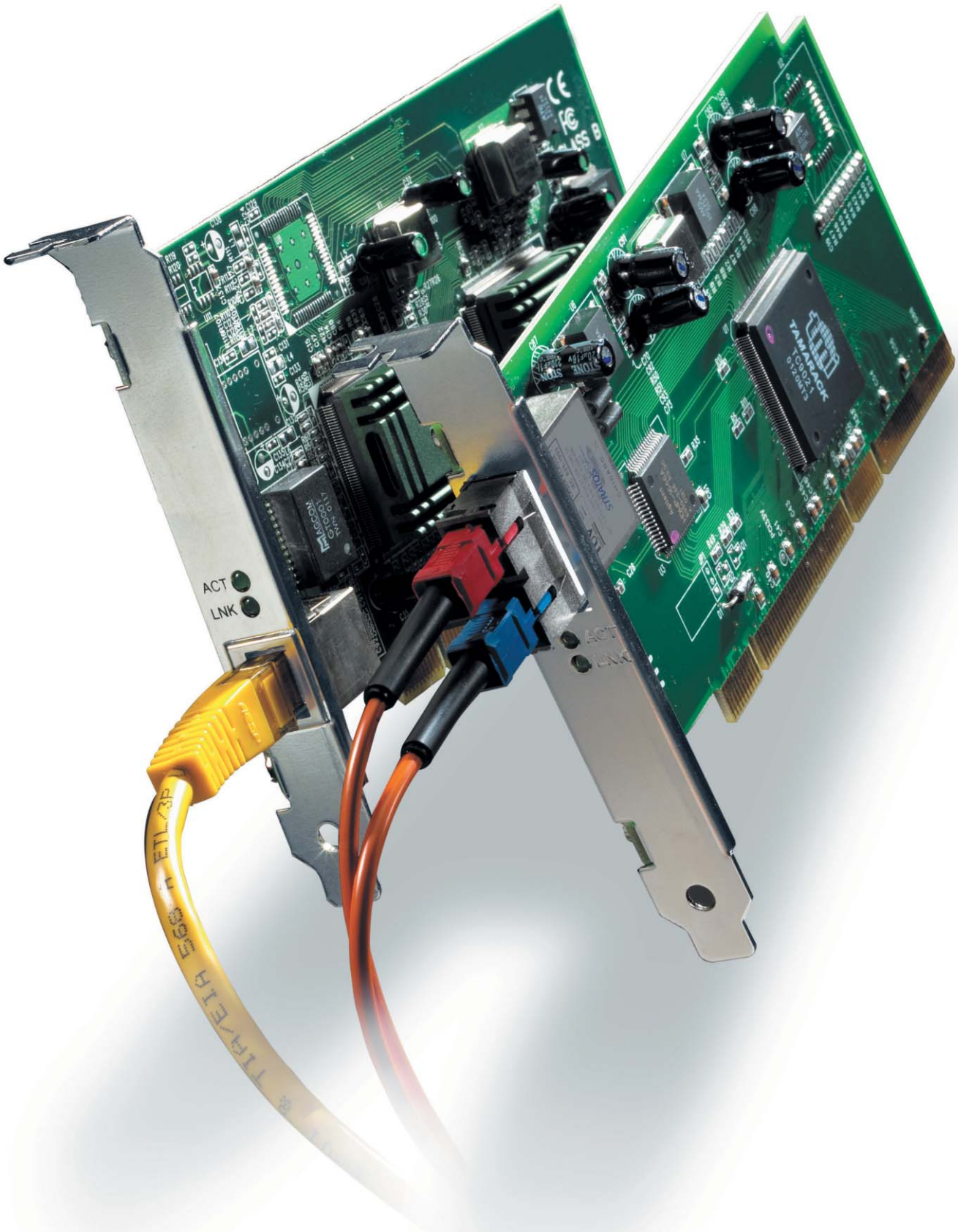


065-77MM

SFP Fibre Modules for Gigabit Switches

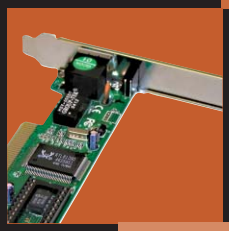
PART NO.	DESCRIPTION
065-77MM	SFP Fibre Module, Connector LC Multimode
065-77SM	SFP Fibre Module, Connector LC Singlemode
065-77WDMA	SFP Fibre Module Connector LC Singlemode WDM, Rx=1,550, Tx=1,310
065-77WDMB	SFP Fibre Module Connector LC Singlemode WDM, Tx=1,550, Rx=1,310
065-77CWDM1470	SFP Fibre Module LC Singlemode CWDM, 1.25Gbps, 3.3V, 1,470nm, 40km
065-77CWDM1490	SFP Fibre Module LC Singlemode CWDM, 1.25Gbps, 3.3V, 1,490nm, 40km
065-77CWDM1510	SFP Fibre Module LC Singlemode CWDM, 1.25Gbps, 3.3V, 1,510nm, 40km
065-77CWDM1530	SFP Fibre Module LC Singlemode CWDM, 1.25Gbps, 3.3V, 1,530nm, 40km
065-77CWDM1550	SFP Fibre Module LC Singlemode CWDM, 1.25Gbps, 3.3V, 1,550nm, 40km
065-77CWDM1570	SFP Fibre Module LC Singlemode CWDM, 1.25Gbps, 3.3V, 1,570nm, 40km
065-77CWDM1590	SFP Fibre Module LC Singlemode CWDM, 1.25Gbps, 3.3V, 1,590nm, 40km
065-77CWDM1610	SFP Fibre Module LC Singlemode CWDM, 1.25Gbps, 3.3V, 1,610nm, 40km

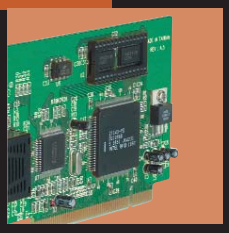
NETWORK CONNECTIVITY SYSTEMS



SIGNAMAX™
CONNECTIVITY SYSTEMS

Network Interface Cards





D

Gigabit Ethernet PCI Adapter Cards

Fast Ethernet PCI Adapter Cards

Gigabit Ethernet PCI Adapter Card

Signamax Connectivity Systems' Gigabit network adapter cards are used wherever it is necessary to provide Gigabit Ethernet capability directly into a server or workstation. These cards utilize the new high-speed 64/32-bit PCI Bus Mastering architecture and support IEEE 802.1p Quality of Service (QoS) and 802.1Q VLAN Tagging standards for complete network optimization.

The model 098-1122 twisted-pair LAN card supports the IEEE 802.3ab 1000BaseT specification in a Category 5E or better cabling system, using a standard RJ-45 jack. This card also supports 10BaseT and 100BaseTX transmission, allowing its use in networks evolving to Gigabit Ethernet.

SPECIFICATIONS

STANDARD COMPLIANCE
IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX;
IEEE 802.3ab 1000BASE-T

ARCHITECTURE
PCI 2.1/2.2 (6/33 MHz) 32 bit & 64 bit

CONNECTOR
RJ-45

TRANSMISSION RATE
10/100/1,000 Mbps

TOPOLOGY
Star

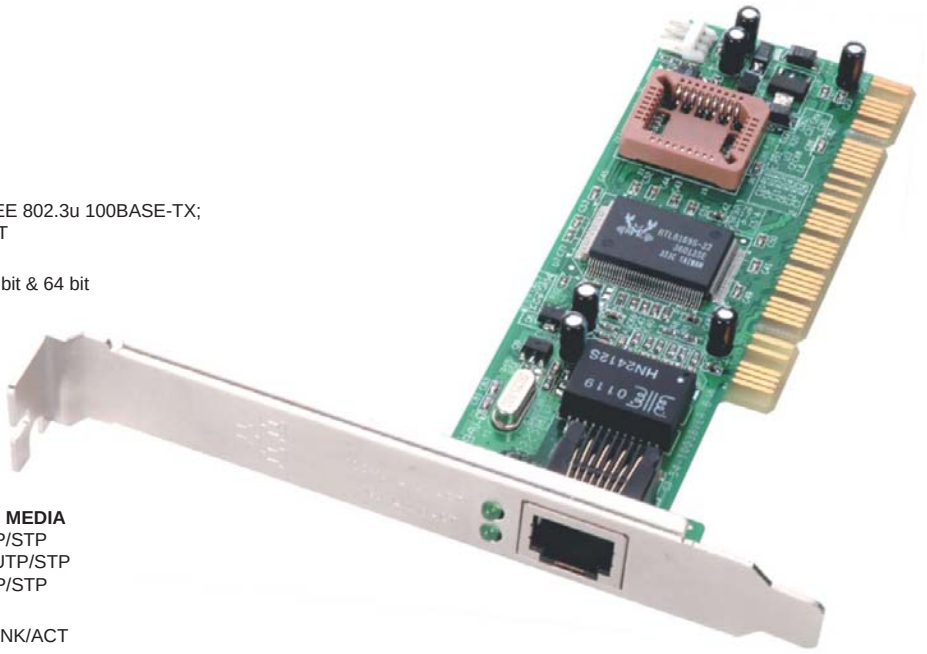
PROTOCOL
CSMA/CD

NETWORK TRANSMISSION MEDIA
10BASE-T Cat. 3, 4, 5 UTP/STP
100BASE-TX Cat. 3, 4, 5 UTP/STP
1000ASE-TX Cat. 5, 6 UTP/STP

LED
100 Mb LINK/ACT, 1 Gb LINK/ACT

PHYSICAL CHARACTERISTICS
Power Consumption: 7 Watts (Max)
Weight: 0.095 kg
Operating Temperature: 0° – 55°C
Store Temperature: -20° – 70°C
Dimension: 122.2 x 42.9 mm
Humidity: 10-90% (Non-condensing)

SAFETY & EMI CERTIFICATES
CE & FCC-B



Gigabit Ethernet PCI Adapter Card

PART NO.	DESCRIPTION
098-1122	10/100/1000BaseT/TX PCI Network Adapter Card

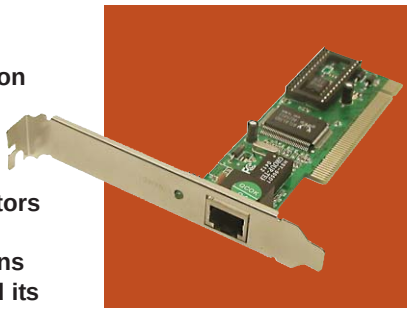
FEATURES

- **Supports 64/32 bit, 66/33 MHz PCI Bus Master for high performance**
- **Full duplex design to double the performance to 20/200/2,000 Mbps**
- **One STP connector for 1,000 Mbps, 100 Mbps or 10 Mbps network speed**
- **Support Auto-negotiation function**
- **Auto-setups IRQ and I/O address**
- **Supports Virtual LAN (VLAN) and long frame (1,536 Bytes)**
- **Supports 802.1D and 802.1Q priority queuing**
- **Net System: NDIS 4,5 driver for Microsoft Windows 95/98, Win2000, Me, Netware driver for Server V.4/5, UNIX, Linux**
- **Supports MDIX at 10, 100, 1,000 Mb/s**
- **Compliant with PC 97 and PC 98 Hardware Design Guides, PC 99 Hardware Design Guide draft. ACPI v1.0, PCI Power Management Specification v1, OnNow Device Class Power Management Reference Specification—Network Device Class v1.0a**
- **Supports Jumbo packets (9K)**
- **Wake on LAN (WOL) support compliant with PC98, PC99, and OnNow, including directed packets, Magic Packet TM, ARP packets, pattern mach packets, and Phy status change**
- **IPv.4 checksum task off-loading**

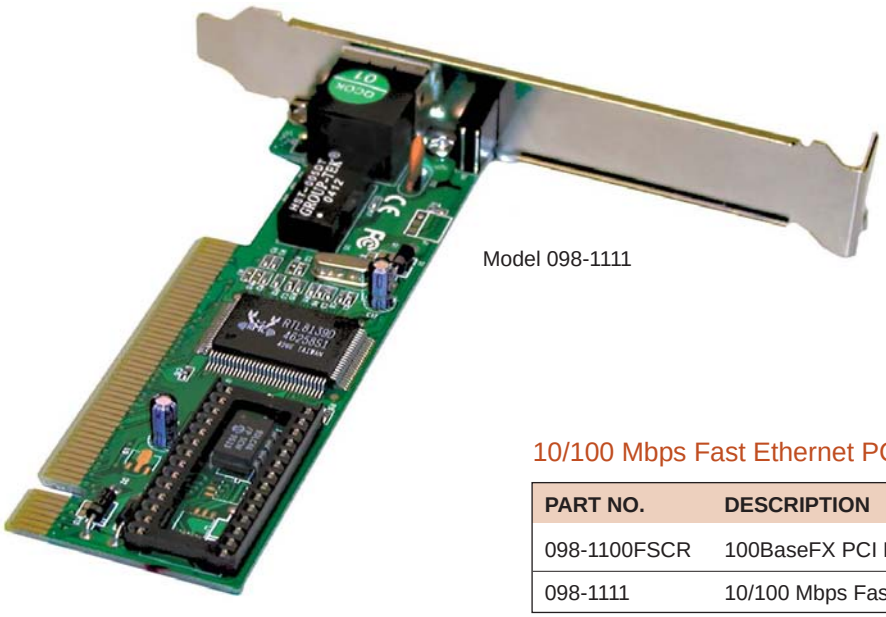
10/100 Mbps Fast Ethernet PCI Adapter

098-1111, the most cost-effective solution for end users, is equipped with Auto-negotiation function. Auto-negotiation function has become the basic requirement of network adapters. It automatically supports data transmission speeds ranging from 10 Mbps to 200 Mbps. This function smoothly and automatically switches drivers between 10 Mbps and 100 Mbps, Full-or Half-duplex, LAN connections.

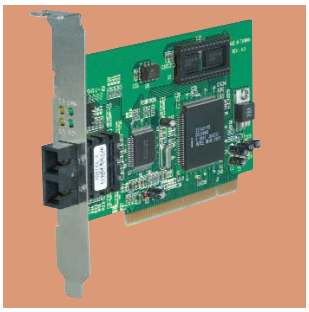
Furthermore, an optional Boot ROM socket is provided to allow administrators to boot diskless computers from remote servers. This function is most frequently used for schools, libraries or other public buildings. 098-1111 runs in 32-bit PCI bus master mode. It is compliant with industrial standards and its drivers support all major operating systems.



Model 098-1111



Model 098-1111



Model 098-1100FSCR

10/100 Mbps Fast Ethernet PCI Adapter

PART NO.	DESCRIPTION
098-1100FSCR	100BaseFX PCI Network Adapter Card – SC Multimode
098-1111	10/100 Mbps Fast Ethernet PCI adapter, RJ-45 STP

SPECIFICATIONS

STANDARDS
IEEE 802.3u: 100BASE-TX
IEEE 802.3: 10BASE-T

BUS TYPE
PCI specification revision 2.1, 2.2

NETWORK INTERFACE
One shielded RJ45 phone-type jack

NETWORK MODES SUPPORTED
10BASE-T: CAT 3, 4, and 5 TP
100BASE-TX: CAT 5 TP cable
Full-duplex available in both modes

LEDs
LINK (Green), TX/RX (Green)

BOOT ROM (OPTIONAL)
64K Bytes with optional on-board Boot ROM socket

DIMENSIONS
120 x 42 mm /4.72 x 1.65 inches)

ENVIRONMENT
Operating Temperature: 0° – 55°C
Storage Temperature: -20° – 70°C
Humidity: 10-90% Non-condensing

SOFTWARE SUPPORT
Windows 95/98/ME/ NT/2000/XP
Netware 3.x, 4.x, 5.x. Client 32,
NDIS 2.0 Drivers, Packet Driver, Linux,
SCO UNIX, Free BSD, DOS ODI

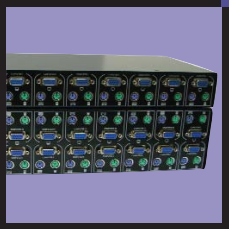
FEATURES

- **Sturdy Single Chip Design Enhances Reliability and Ensures Robust Running Usability**
- **Auto-negotiation Automatically Switches between 10/100 Mbps and Full-/Half-duplex Modes**
- **Equipped with one optional Boot ROM Socket to Boot Diskless Computers Remotely**
- **Fully Comply with IEEE 802.3u and IEEE 802.3 Standards**
- **Support IEEE 802.3x Flow-control for Full-duplex**
- **Shielded RJ45 Connector Provides Unified 100BASE-TX and 10BASE-T Network Media Interface**
- **Comply with PCI specification 2.1, 2.2**
- **Support ACPI, and PCI-Bus Power Management**
- **Compliant to PC99 and PC2001 Standards**

NETWORK CONNECTIVITY SYSTEMS

SIGNAMAX
CONNECTIVITY SYSTEMS

KVM Switches



- 2-Port Compact KVM Switch
- 2- and 4-Port Multimedia KVM Switches
- 4-Port Slim Desktop Switch
- 8-Port Cascadable KVM Switches
- 8- and 16-Port Rackmount KVM Switches
- KVM Hydra Cables
- VGA Splitter
- KVM over IP

2-Port Compact KVM Switch

Signamax Connectivity Systems' CommandView is the perfect solution for convenient control of two computers from just one keyboard, monitor, and mouse. Quick, simple connection and you're in total control. No software required; completely plug & play. Select any computer with push-button ease. Auto Scan at user selectable intervals. Dedicated keyboard & mouse emulation. Intelligent mode operation ensures each keyboard's LED status & typematic rates are automatically restored.

Model 098-8025 rear panel

2-Port Compact KVM Switch

PART NO.	DESCRIPTION
098-8025	2-Port KVM Switch – PS/2 Only

SPECIFICATIONS

SELECTION METHOD
Push-button or keyboard hot keys.
Automatic scanning between CPUs.
Audio alert to confirm switching.

CONNECTIONS
CONSOLE – HDB15 female/mini, DIN6 female/mini DIN6 female
PC PORTS – HDB15 male/mini, DIN6 female/mini, DIN6 female DB9 female

MOUSE SUPPORT
PS/2 Keyboard, PS/2 Mouse, supports MS IntelliMouse

2- and 4-Port Multimedia KVM Switches

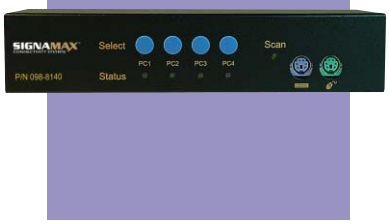
Signamax Connectivity Systems' CommandView KVM switch is a high performance yet low cost console (Keyboard, Mouse, Monitor, Speaker and Microphone) sharing switch for IBM compatible PCs. You can control any 2 or 4 PS/2 style PCs with only one set of Keyboard, Mouse, Monitor and Headset console devices.

Designed with Plug and Play function and fully emulation of keyboard and mouse response including Wrap (Echo) mode, more innovative features added to help you work on different platforms and switch smoothly among them. Now, you can share your console devices with Notebook computer and desktop PC.

It is compact, easy to install, and doesn't need any external power adapter. Moreover, NO extra software is required to install, and hence there are no software incompatibility problems to worry about.

Model 098-8120 rear panel

Model 098-8120



Model 098-8140

2- and 4-Port KVM Switches

PART NO.	DESCRIPTION
098-8120	Multimedia 2 port KVM Switch, Desktop, with Mic. & Audio
098-8140	Multimedia 4 port KVM Switch, Desktop, with Mic. & Audio

FEATURES

- **Access 2 or 4 computers with one set of keyboard, mouse, monitor and headset.**
- **An innovated Broadcast mode will turn your keyboard strokes and mouse movements broadcast to all computers at the same time. That is useful when you operate the same activities on all identical computers, such as configuration, OS installation.**
- **A built-in 3.9V voltage detector will stop activity when cabling is too long or the load of console keyboard and mouse is too heavy.**
- **Supports PC-AT and PS/2 keyboard (AT requires an AT-PS/2 adapter).**
- **Supports Microsoft IntelliMouse Explorer (5 key+Wheel), Microsoft IntelliMouse (3 Key+Wheel), Logitech MouseMan+, FirstMouse+, and IBM Scroll Point Mouse.**
- **Designed for Plug-and-Play operation.**
- **Full emulation of Keyboard and Mouse for all inactive channels; Now, you can boot up PC even without keyboard and mouse installed on the switch.**
- **The status of keyboard's Caps Lock, Num Lock, Scroll Lock and typematic rate are automatically saved and restored when switching among computers.**
- **Supports simple cascade up to 4 stages by setting different Hot-key on each stage.**
- **Supports resolution from VGA, SVGA and up to (2,048 x 1,536 @ 75 Hz).**
- **VGA amplifier bandwidth is 300 Mhz, Av = 1 for a crystal clear video output.**
- **Supports VESA DDC1/2B standard.**
- **3 kinds of PC selection method: by keyboard number keys, arrow-keys and push button.**
- **A wheel mouse can be set to different mode (with wheel or without wheel) for different PC OS.**
- **The moving speed of mouse can be set to Fast or Slow.**
- **Hardware reset can be activated by Hot-key command or press push button for more than 5 seconds.**
- **Two Scan modes: Automatically switches through powered-on computers or stop on each computer.**
- **Total 8 time intervals can be set for Scan mode: 4, 5, 10, 15, 20, 25, 40, 60 seconds.**
- **Keyboard's LED will flash to indicate the scan time interval setting by binary form in Hot-key mode.**
- **Keyboard and mouse activity can be Locked and Unlock.**
- **Audio I/O can be locked to particular channel.**
- **Built-in Keep-Alive feature will allow Keyboard and Mouse remove and attach again.**
- **A sophisticated Hot-key command set will help user to extend the usage of KVM switch without power-down to change console devices.**
- **Uses Combo KVM+Audio cable for easy installation and also prevent from cable tangling, cross-plugging.**
- **Small size and easy to install and operate.**
- **No software required.**
- **No external power required. An optional power jack reserved for long distance cabling**

4-Port Slim Desktop PS/2 KVM Switch

4-Port Slim Desktop PS/2 KVM Switch with Audio&Mic for SOHO and office multimedia applications. The 098-8040 Slim Desktop PS/2 KVM Switch provides Audio and Microphone switching function for SOHO and office desktop multimedia application. And it allows you to access, control, boot and reboot four PS/2-enabled multimedia computers using only one keyboard, video, mouse and optional speaker set and microphone.

Audio and Microphone Switching offers uninterrupted multimedia experience

The audio and microphone switching function of 098-8040 allows you to leverage the multimedia systems on each of your four computers. You can monitor the audio/mic input/output of each computer without plugging on and off the audio/mic cables. And it takes only one set of speaker and microphone instead of one set for each computer. Furthermore, it offers you user-programmable simultaneous/independent PC and audio/mic switching function for flexible multimedia and KVM Switching operation.

Zero Cabling Hassles for KVM users

This KVM Switch saves you cabling troubles with its 4 x 1.2 M detachable KVM and 4 x audio/mic cables. In fact, you have zero cabling troubles since you don't have to worry about finding suitable cables to fit—They comes within the box package!

4-Port Slim Desktop PS/2 KVM Switch w/ Audio & Mic

PART NO.	DESCRIPTION
098-8040	4-Port Slim Desktop PS/2 KVM Switch w/ Audio & Mic

SPECIAL FEATURES

- **4-Port Slim Desktop PS/2 KVM switch with audio&mic**
- **Audio and microphone switching for uninterrupted multimedia experience across multi-platforms**
- **Simultaneous/independent PC and Audio/Mic Switching (User-programmable)**
- **Hot-plugging PCs for maintenance without powering down the KVM Switch or PCs**
- **Channel selection by keyboard hotkeys and face-panel push buttons**
- **Autoscan delay time programmable**
- **Separate LED indicators for PC port and audio channel status monitoring**
- **High VGA resolution 2,048 x 1,536**
- **PS/2 interface power**

SPECIFICATIONS

PC Connections: 4
Console Connections: 1

PC PORT CONNECTORS
4 x HDB 15-pin female (integrated with PS/2 interface)
4 x 3.5 mm audio in/out jack, 4 x 3.5 mm mic in/out jack

CONSOLE PORT CONNECTORS
1 x PS/2 Keyboard 6-pin Mini Din female
1 x PS/2 Mouse 6 pin Mini Din female
1 x HDB 15-pin female, 1 x 3.5 mm audio in/out jack
1 x 3.5 mm mic in/out jack

PC/Audo/Mic selection: Push buttons/Hotkeys
PC port LED: 4 (Green)
Keyboard/Mouse conversion: PS/2
VGA Resolution: 2,048 x 1,536
Power Type: PS/2 interface power
Dimension (L x W x H): 164 x 72 x 26 mm
Size: Slim Palmtop
Housing: Plastic

SAFETY / EMISSION
FCC, CE

8-Port Cascadable KVM Switches

Signamax Connectivity Systems' CommandView offers on-screen control in a full-featured, high performance KVM Switch. The on-screen display feature makes it easy to configure and control up to 64 computers from just one standard monitor, keyboard and mouse. You can name each computer system, making it easy to know which particular computer is currently under your control.

Expands to 8 banks of 8 CPUs each, using the included daisy chain cable; no CPU ports are lost to expansion. Individual port processors for flawless CPU booting. Automatically scan each computer at user selectable intervals. Dedicated keyboard and mouse emulation. Intellimouse support plus PS/2 mouse conversion makes CommandView fully compatible with both PS/2 and AT style computers.

Model 098-8180 rear panel

Model 098-8180

Model 098-8080

8-Port Cascadable KVM Switches

PART NO.	DESCRIPTION
098-8080	8-Port KVM Switch with On-Screen Control, 2U Height, Rackmount, Cascadable
098-8180	8-Port KVM Switch with On-Screen Control, 1U Height, Desktop

SPECIAL FEATURES

- **Electronic Switching for Greater Reliability and Durability.**
- **Designed for Plug-and-Play operation.**
- **Broadcast, LockUp/UnLock, Move Mouse faster/slower, Change Hot-key, Set.**
- **Mouse type, Mute buzzer, Quick channel switch by arrow keys and more.**
- **Full emulation of Keyboard and Mouse for all inactive channels**
- **Kinds Hot-key 1. Caps Lock, 2. Num Lock, 3. Scroll Lock and 4. Ctrl+Alt+Shift.**
- **Kinds of PC selection method via Hotkey (by keyboard number keys or arrow-keys), Push Button switch.**
- **Supports Microsoft IntelliMouse Explorer (5key+Wheel), Microsoft IntelliMouse (3Key+ Wheel), Logitech MouseMan+, FirstMouse+, and IBM Scroll Point Mouse.**
- **Built-in Keep-Alive feature will allow Keyboard and Mouse remove and attach again.**
- **Keyboard and mouse activity can be Locked and Unlock.**
- **Cascadable up to 8 levels.**
- **OnScreenDisplay funciton implemented.**
- **19" Rackmountable.**
- **Size (W x D x H): 440 x 153 x 43 mm.**

8- and 16-Port 19" Rackmount KVM Switches

The 098-8280/098-82160 are 8- and 16-Port cascadable 19" Rackmount KVM Switches with OSD. They are designed to provide robust and reliable KVM switching performance under harsh and critical environment either in corporate office or on industrial floor.

OSD Menu offers more intuitive and convenient control. The full-feature OSD gives an intuitive menu-driven operation most users will find dispensable for a truly convenient experience.

Port-capacity scalable up to two hundred more computers via daisy-chaining multiple KVM Switch units. Multiple units 098-8280/098-82160 could also be daisy-chained up to 16 levels and provide a total port capacity of up to two hundred more of PCs (depending on the unit combinations). Centralized Rackmount Management.

The rackmount design offers a neat placement of the KVM Switches units on the rack for centralized management and also for security enhancement that could be provided by a locked server room.

098-8280/82160

8- and 16-Port 19" Rackmount KVM Switches w/ OSD

PART NO.	DESCRIPTION
098-8280	8-Port 19" Rackmount KVM Switch w/ Front-panel Buttons, Keyboard Hotkeys and OSD Control
098-82160	16-Port 19"Rackmount KVM Switch w/ Front-panel Buttons, Keyboard Hotkeys and OSD Control

FEATURES

- **8- and 16-Port Cascadable 19" Rackmount KVM switch with OSD**
- **Cascadable up to 16 levels using daisy-chain cable**
- **Port capacity scalable up to 248/256 PCs with multiple units in daisy-chained configuration**
- **PS/2 style keyboard and mouse control**
- **Support Microsoft IntelliMouse®, IntelliMouse Explorer®, Logitech NetMouse® and other compatibles**
- **Channel selection and operation using front-panel push buttons, keyboard hotkeys and OSD Menu**
- **Support for DOS, Windows 95/98/SE/ME/2000/XP, Linux, etc.**
- **Dual numerical LED displays and LED indicators for easy port status monitoring**
- **Buzzer sound for port switching confirmation**
- **Autoscan mode for quick browsing of all connected computers**
- **Autoscan delay time programmable from 5 – 99" through OSD menu option**
- **Search PC by name**
- **Password protection**
- **High VGA resolution 2,048 x 1,536**
- **Video Bandwidth 250 MHz**
- **19" rack mount design with metal enclosure for best shielding and protection**

SPECIFICATIONS

Model 098-8280

PC Ports: 8
Console Port: 1
Daisy-chain port: 1
Daisy-chain level: Up to 16 levels
Max. PC Connection: 248 PCs (1 x 098-8280 + 15 x 098-82160)

PC PORT CONNECTORS
8 x PS/2 Keyboard 6-pin Mini Din female
8 x PS/2 Mouse 6 pin Mini Din female
8 x VGA HDB 15-pin Female

CONSOLE PORT CONNECTORS
1 x PS/2 Keyboard 6-pin Mini Din female
1 x PS/2 Mouse 6 pin Mini Din female
1x VGA HDB 15 pin female

OSD: Yes
PC selection: Push buttons / Hotkeys / OSD
PC port LEDs: 16
Scan delay time: 5 – 99 sec. programmable through OSD menu option
VGA Resolution: 2,048 x 1,536
Video Bandwidth: 250 MHz
Humidity: 0~90% RH, non-condensing
Size: Standard 19" rack mount
Housing: Metal enclosure
Dimension (L x W x H): 410 × 165 × 44.5 mm
Power: DC 9V 1A (required)
Weight: 2,200 g

SAFETY / EMISSION
FCC, CE

098-8280

Model 098-82160

PC Ports: 16
Console Port: 1
Daisy-chain port: 1
Daisy-chain level: Up to 16 levels
Max. PC Connection: 256 PCs (16 x 098-82160)

PC PORT CONNECTORS
16 x PS/2 Keyboard 6-pin Mini Din female
16 x PS/2 Mouse 6 pin Mini Din female
16 x VGA HDB 15-pin Female

CONSOLE PORT CONNECTORS
1 x PS/2 Keyboard 6-pin Mini Din female
1 x PS/2 Mouse 6 pin Mini Din female
1x VGA HDB 15 pin female

OSD: Yes
PC selection: Push buttons / Hotkeys / OSD
PC port LEDs: 32
Scan delay time: 5 – 99 sec. programmable through OSD menu option
VGA Resolution: 2,048 x 1,536
Video Bandwidth: 250 MHz
Humidity: 0~90% RH, non-condensing
Size: Standard 19" rack mount
Housing: Metal enclosure
Dimension (L x W x H): 410 × 165 × 44.5 mm
Power: DC 9V 1A (required)
Weight: 3,500 g

SAFETY / EMISSION
FCC, CE

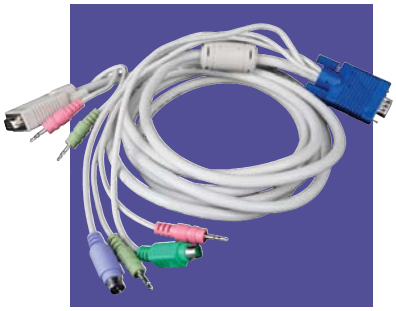
098-82160

098-8280/82160 rear panels

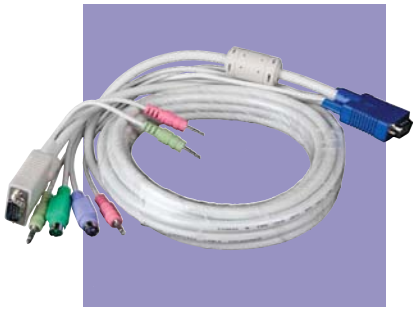
KVM Hydra Cables

Tangle-proof, single-cable design combines monitor, keyboard and mouse cables into a single, flexible bundle.

Available in two types and in a variety of lengths for connection between CommandView KVM switches and your computers, and also as an extension between your monitor, keyboard, and mouse to the CommandView KVM switch.



098-C018



098-C050

C65T-6B

C-65T-10B

KVM cables for Multimedia KVM Switches

PART NO.	DESCRIPTION
098-C015	KVM cable for 1.5 m, 2x PS/2 M/M + video M/F + 2x stereo
098-C018	KVM cable for 1.8 m, 2x PS/2 M/M + video M/F + 2x stereo
098-C030	KVM cable for 3.0 m, 2x PS/2 M/M + video M/F + 2x stereo
098-C050	KVM cable for 5.0 m, 2x PS/2 M/M + video M/F + 2x stereo
098-C100	KVM cable for 10.0 m, 2x PS/2 M/M + video M/F + 2x stereo

C-69T30B

KVM Hydra cables for 098-8025, 098-8040, 60, 80

PART NO.	DESCRIPTION
C-65T-6B	6’ HD15M-F, (2) DIN6M-F, from Monitor, PS/2 Keyboard, PS/2 Mouse to KVM Switch
C-65T-10B	10’ HD15M-F, (2) DIN6M-F, from Monitor, PS/2 Keyboard, PS/2 Mouse to KVM Switch
C-69T-6B	6’ HD15M-F, (2) DIN6M-M, Monitor, PS/2 Keyboard, PS/2 Mouse ports to CPU
C-69T-10B	10’ HD15M-F, (2) DIN6M-M, Monitor, PS/2 Keyboard, PS/2 Mouse ports to CPU
C-69T-20B	20’ HD15M-F, (2) DIN6M-M, Monitor, PS/2 Keyboard, PS/2 Mouse ports to CPU
C-69T-30B	30’ HD15M-F, (2) DIN6M-M, Monitor, PS/2 Keyboard, PS/2 Mouse ports to CPU

2 and 4 Port VGA Splitter

Signamax Video Splitter is a VGA/SVGA/QXGA splitting device which boosts video signal from one PC to 2/4/8 monitors. Its built-in 300 Mhz Video Amplifier not only extends the transmission distance up to 210 ft (65 m) but also gains multiple high quality screens. It is very suitable for multiple display applications, such as Stock market monitor array, Educational demos, Airport & Railway station bulletin display.

VGA Splitter

PART NO.	DESCRIPTION
098-8220	Signamax VGA splitter 2PC
098-8240	Signamax VGA splitter 4PC

FEATURES

- **Splitting one PC's screen into 2/4/8 monitors for simultaneously display.**
- **Bypass DDC2/DDC2AB PnP from PC-VGA port to MONITOR1 port.**
- **Support maximum resolution up to 2,048 x 1,536 @ 75 Hz**
- **Maximum transmission distance is up to 210 ft. (65 m), including cascades.**
- **A built-in voltage detector will shut down video synchronous signal to protect from low power supply.**
- **A brightness control to select high brightness screen for long distance cabling.**
- **No DC clamping offset on R/G/B signals works on all type monitors (CRT/LCD).**

KVM over IP

Signamax 098-8900 KVM over IP switch defines a new class of remote KVM access devices. This switch combines digital remote KVM access via IP networks with comprehensive and integrated system management. 098-8900 KVM over IP switch provides convenient, remote KVM access and control via LAN or Internet. It captures, digitizes, and compresses video signal and transmits it with keyboard and mouse signals to and from a remote computer. Provides a non-intrusive solution for remote access and control. Remote access and control software runs on its embedded processors only but not on mission-critical servers, so that there is no interference with server operation or impact on network performance. Furthermore, Signamax 098-8900 KVM over IP switch offers additional remote power management with the help of optional available device.

098-8900

KVM over IP switch

PART NO.	DESCRIPTION
098-8900	KVM over IP switch – one port

NETWORK CONNECTIVITY SYSTEMS

SIGNAMAX
CONNECTIVITY SYSTEMS

Wireless LAN

- 2.4 GHz WiFi Access Point
- 2.4 GHz WiFi AP/Router 11g+
- 2.4 GHz WiFi ADSL Router 11g
- 2.4 GHz WiFi PCI Card 11g+
- 5 GHz Wireless Router
- 5 GHz Wireless Access Point
- 5 GHz Wireless PCI Card
- 5 GHz Wireless PCMCIA Card
- 5 GHz Wireless USB Dongle
- Antenna series for 2.4 GHz Band
- Accessories for WiFi units
- Signamax Antennas for 5 GHz Band (5,400 – 5,725 and 5,725 – 5,875 GHz)
- Signamax Antennas for 5 GHz Band

802.11g Wireless External Antenna Access Point

Signamax 802.11g Access Points are the ideal solution for any network administrator who needs to expand the capacity of the wireless network. This is especially applicable to wireless networks in high traffic areas such as airports, coffee shops, shopping centers, sporting venues, and university campus deployments. At transfer rates of up to 54 Mbps. In addition to bridging 802.11b/g wireless networks, For more secure communication, the 065-1784A supports the encryption settings up to 152-bit WEP, and advanced security of WPA, WPA2 and AES. With its web-based configuration the Access Point is easy to install, alter or activate advanced setting, or update with the latest firmware.

SPECIFICATIONS

STANDARDS
IEEE 802.11b, IEEE 802.11g, IEEE 802.3,
IEEE 802.3u, IEEE 802.3x
Modulation Types
802.11b: DQPSK, DBPSK and CCK
802.11g: BPSK, QPSK, 16QAM, 64QAM, OFDM
Operating Frequency: 24.00 – 24.97 GHz ISM band
Operating Channels: 11 for N. America, 14 Japan,
13 Europe (ETSI), 2 Spain, 4 France

DATA RATE
802.11g: 108, 54, 48, 36, 24, 18, 12, 9 and 6 Mbps
802.11b: 11, 5.5, 2, and 1 Mbps
Media Access Protocol: CSMA/CA with ACK
Receiver Sensitivity:
802.11b: Typical -83 dBm for 11 Mbps @ 8% PER
(Packet Error Rate)
Typical -89 dBm for 2 Mbps @ 8% PER (Packet Error Rate)
802.11g: Typical Sensitivity at Which Frame (1,000-byte PDUs)
Error Rate = 10%
-87 dBm at 6 Mbps; -86 dBm at 9 Mbps; -85 dBm at 12 Mbps;
-83 dBm at 18 Mbps; -80 dBm at 24 Mbps;
-76 dBm at 36 Mbps; -71 dBm at 48 Mbps; -66 dBm at 54 Mbps
Transmitter Output Power
802.11b: Typical 18 dBm at 11, 5.5, 2 and 1 Mbps
802.11g: Typical RF Output Power at each Data Rate
+14 – 15 dBm at 54 Mbps and 108 Mbps;
+14 – 16 dBm at 48 Mbps;
+16 – 18 dBm at 36, 24, 18, 12, 9, and 6 Mbps

ANTENNA
Dipole antennas with 2 dBi gain for 2.4 GHz
PIFA antennas with 2 dBi gain for 2.4 GHs – TBD

INTERFACE
Power Jack, Factory Reset Button,
10/100M Base-T (UTP), Wireless Dipole Antenna
Operating Voltage: 5VDC +/- 10%
Power Consumption: max. 6W (TBD)
Dimensions (L x W x H): 139.5 x 114.5 x 29.5 mm
(5.49 x 4.5 x 1.16")

LEDs
Power LED, 10/100M LED, Wireless LED
Transmit Power Control
Control TX power level from full, 50%, 25%, 12.5%, and min.
Radio control: Radio on/off supported
Auto Channel selection: Scan channel and find a clear channel
DFS/TPC: Dynamic Frequency Selection and Transmit Power Control
Security: 64/128/152 bit WEP and WPA/WPA2 Encryption
Authentication Type
Open System Authentication, Shared Key Authentication
or both enabled

FEATURES

- **Fully Comply with IEEE 802.11b and 802.11g Standard High-Speed Data Rate**
- **High-speed Wireless Connection Up to 54 Mbps Data Rate**
- **Support 64/128/152 bit WEP and WPA/WPA2 Encryption for Advanced Transfer Security**
- **Easy Installation, Management, and Configuration Reset**
- **Act as Repeater and AP at the Same Time via WDS**
- **Support IP Sharing to Allow More than One Device ON-Line Simultaneously**
- **Built-in Firewall Provides Additional Security**

Access Point 802.11b/g

PART NO.	DESCRIPTION
065-1784A	Access Point 802.11b/g

54/108 Mbps Wireless Broadband Router

Signamax 065-1786 is an IEEE 802.11g compliant wireless router with a built in four-port fast Ethernet switch. It brings the latest wireless technology with high speed up to 54 Mbps and 108 Mbps turbo mode and is backwards compatible with all the existing 802.11b products. This high-performance IEEE 802.11g standards-based router connects all of your PC's equipped with wireless PC cards, while an integrated 4-port fast Ethernet switch connects your devices that need Ethernet wiring. It's the easiest way to share and extend your high-speed DSL/cable modem Internet connection, either with or without wires.

54/108 Mbps Wireless Broadband Router

PART NO.	DESCRIPTION
065-1786	54/108 Mbps wireless Router with 4-port switch, external antenna

SPECIFICATIONS

IEEE 802.11G SECTION

Protocols
Static & Dynamic Routing with TCP/IP, NAT, PPPoE, DHCP (Client & server); HTTP, UDP, PAP, CHAP, RIP1, DDNS

Firewall/Alerts
NAT, Stateful Packet Inspection (SPI), DoS Attack Detection/Logging, Dropped Packet Log, Security Event Log, E-mail Alerts of Internet Activity Logs.

VPN Pass Through: PPTP, IPSec, L2TP

Management: Web-based Management, Remote Management

Wireless Data Rate: Complied with IEEE 802.11b/11g, support rate: 1 – 54 Mbps

WEP: 64 Bit, 128 Bit

Frequency Band: 2.4 – 2.4835 GHz

Modulation Type: Direct Sequence Spread Spectrum (DSSS)

RF Output Power: 64 QAM: 14 dBm/16 QAM: 16 dBm/QPSK: 17 dBm/BPSK: 17 dBm/DBPSK, DQPSK, CCK: 17 dBm

FREQUENCY BAND:
2.4 GHz (11g & b) ISM Band/USA (FCC): 2.412 – 2.462 GHz (Ch1-11), Europe (CE): 2.412 – 2.472 GHz (Ch1-13), Japan (TELEC): 2.412 – 2.484 GHz (Ch1-14)

FEATURES
Auto detects and configures ISP type, Exposed Host (DMZ), MAC Address authentication, URL Content Filtering

APPLICATION SUPPORT
Works with most Internet gaming and instant messaging applications

INTERNET (WAN) LAN
1 port x 10/100 Mbps (auto-sensing) Ethernet (RJ45) 4 ports x 10/100 Mbps 10/100 Mbps (auto-sensing) Ethernet (RJ45)

LEDs
Power, Internet (WAN), WLAN, LAN Activity

POWER ADAPTOR
External DC 12V 800 mA

PHYSICAL CHARACTERISTICS

Dimensions (L x W x H): 160 x 108 x 30 mm (6.3 x 4.25 x 1.18")

Weight: 235 g

Signamax Wireless ADSL Modem/Router

Signamax 065-1787, an economic combination of ADSL modem, Broadband Router, 802.11g Access Point, and 4-Port Switch. It is designed for SOHO and home users. It provides Internet access to all your LAN/WLAN users. 065-1787 is compliant with UR2 (Annex B) for ISDN environment. 065-1787 has an integrated 802.11g 54 Mbps Wireless Access Point, allowing simple and flexible access to all LAN or Internet resources by wireless users.

Signamax Wireless ADSL Modem/Router

PART NO.	DESCRIPTION
065-1787	Wireless ADSL Modem/Router 1x WAN RJ-11, 4xLAN RJ45 10/100BASE-T

SPECIFICATIONS

PROTOCOLS
NAT/NAPT, PPPoE & PPPoA, HTTP, DHCP (client/Server), TCP/IP & UDP, PAP & CHAP, RIP1, DDNS, UpnP

FIREWALL/ALERTS
NAT firewall (ALG), Rule-based Policy Firewall, Attack Alert (E-mail) and log, Firewall for DoS (Denial of Service) attacks Security URL filter, Access Control, Local Password
VPN Pass Through: PPTP, IPSec, L2TP

ATM
Support AAL5, UBR, VPI Range (0-255) and VCI range (1-65535), 1 PVC (optional up to 16 PVCs), OAM F4/F5 loopback, Payload Encapsulation, RFC2684 (RFC1483), multi-protocol over ATM, RFC2225 (RFC1577), IPoA, RFC2364, PPP over ATM (CHAP and PAP), RFC2516, PPPoE over ATM

MANAGEMENT
Web-based Management

WIRELESS DATA RATE
IEEE 802.11b, IEEE 802.11g

WEP
64 Bit, 128 Bit and 256 Bit

ANTENA
2 dbi

FREQUENCY BAND
2.4 – 2.4835 GHz ISM Band

MODULATION
802.11g: Orthogonal frequency division multiplexing
802.11b: Direct Sequence Spread Spectrum (PBCC, CCK, DQPSK, DBPSK)

WAN ADSL LINE INTERFACE
Comply to G.dmt (G.992.1) Annex A, Annex B
Automatic-rate adaptation in steps of 32 Kbps
Connector: RJ-11
Line Impedance: 100 Ω

LAN PORT
4 RJ45 10/100 Base-T auto negotiation switch

RESET BUTTON
Reset to factory default

LEDs
1 x Power, 1 x Status, 4 x 100LAN, 4 x 10LAN, 1 x WAN, 1 x WLAN

POWER
AC 15 V/1 A

PHYSICAL CHARACTERISTICS
Dimensions (L x W x H): 183 x 125 x 31 mm
Regulation:
Annex A: FCC part 15, CUL
Annex B: CE, CB

Signamax Wireless AP/Router 802.11g

Signamax Wireless AP Router 065-1788, IEEE802.11g standard compliant, is a high quality and reliable Internet routing and security device, enables multiple users to share the Broadband Internet connection with or without wires through a Cable or DSL modem. Simply install the router, connect to Cable/DSL modem, and surf Internet without extra efforts. Acting as a 10/100 Mbps 4-port Ethernet switch as well, the router, with all ports supporting MDI/MDIX, allows you to use CAT5 cable to uplink to other routers/switches.

The Wireless 11g AP Router is featured with advanced security technology, supporting WEP, WPA-PSK, WPA (Wi-Fi Protected Access) TKIP/AES, WPA2 and RADIUS. With the router, your network is armed with the highest levels of protection. The Router provides a total solution for the Small and Medium-sized Business (SMB) and the Small Office/Home Office (SOHO) markets, giving you an instant network today, and the flexibility to handle tomorrow's expansion and speed.

Signamax Wireless AP/Router 802.11g

PART NO.	DESCRIPTION
065-1788	Signamax Wireless AP/Router 802.11g

SPECIFICATIONS

Data Transfer Rates: 11 Mbps (11b mode), 54 Mbps (11g mode)
Standard: IEEE 802.11b / 802.11g (Wireless),
IEEE 802.3 / 802.3u (Wired)
Operating Radius: Indoor: 100 m, Outdoor: 300 m
Bridging: IEEE 802.1x, Software bridge between wireless and wired LAN
Routing: Static Routing
RIP version 1 (RFC 1058) and version 2 (RFC 1723)
NAT (Network Address Translation)
NAPT (Network Address and Port Translation)
DHCP (Dynamic Host Configuration Protocol) Server/Client

SECURITY & MANAGEMENT (FEATURE)
64/128 bits WEP Encryption and SSID
WPA / WPA2
Clone MAC
SNMP (simple Network Management Protocol) v1, v2
Supports DDNS
Supports RADIUS Client
Configuration of NAT/NAPT
Supports Virtual Server and Virtual DMZ
Provides MAC filter, Client filter, and URL/IP filter
WAN, LAN, DMZ and AP statistics
Restore to Factory Default
System Log
UPnP, ALG and Help
WDS (only / AP)
AP (Bridge / Getway mode)
Software Upgrade through Web
Firewall

ENVIRONMENTAL
Interface: LAN x 4, WAN x 1
LED Indicators: POWER, LINK (WLAN), ACT (WLAN), LAN x 4, WAN
Wireless Frequency: 2.400 – 2.4835GHz
Receiver Sensitivity: IEEE 802.11b : -84 dBm (Typical),
IEEE 802.11g : -60dBm (Typical)
Transmit Output Power: 11b : 19±1 dBm, 11g : 15±1 dBm
Power: AC 9V, 1A
Dimension (L x W x H): 160 x 95 x 30 mm
Weight: 200g
Temperature: 0–45°C (Operating), -20–70°C (Storing)
Humidity: 5-95% Non-Condensing
Supported OS: Windows 98SE, ME, 2000, XP, NT4.0, Mac and Linux
Regulations: FCC Part 15 class B, CE

FEATURES & BENEFITS

- **Maximum transfer rate up to 85 Mbps from WAN to LAN, 100 Mbps LAN to LAN and 11/54 Mbps through wireless channel enables High-speed access to ISP or corporate network.**
- **Friendly GUI Configuration and Management software.**
- **Supports IEEE 802.3 full duplex flow control.**
- **Built-in DHCP server automatically assigns IP address to all workstations on your LAN.**
- **802.11b/802.11g provides WEP Encryption and SSID functions for security purpose.**
- **Supports MAC filter, Client filter, URL and IP filter blocking and Hacker pattern detection.**
- **Supports ALGs (Microsoft NetMeeting, MSN Messenger, Windows Media Player, DirectX 8.0, PPTP pass through, IPSec pass through, FTP, ICMP, SMTP, POP3, DNS, Telnet, HTTP, HTTPS, H.323, SIP, Real Audio, CuSeeMe, AOL, and Games).**

54/108 Mbps Wireless PCI Card

Signamax 065-1795 let you connect your desktop computer to a wireless network, and is suitable for small offices, home offices and places where cable can not be installed. At transfer rates of up to 54 Mbps and 108 Mbps turbo mode in the 2.4 GHz frequency range, users connected will enjoy faster downloads and truly instant email communication.
For more secure communication, the 065-1795 supports the encryption settings up to 152-bit WEP, and advanced security of WPA and AES. With its web-based configuration the Access Point is easy to install, alter or activate advanced setting, or update with the latest firmware.

FEATURES

- **Fully Compliant with IEEE 802.11b and 802.11g Standard High-Speed Data Rate**
- **High-speed Wireless Connection Up to 108 Mbps Data Rate**
- **Support 64/128/152 bit WEP and WPA Encryption for Advanced Transfer Security**
- **Support Open System (OSA) and Shared Key Authentication (SKA) for Advanced Security**
- **Support both Ad-hoc Mode and Infrastructure Mode**
- **Seamless Roaming Function for Full Mobility: Automatic or Manual Rescan to associate with Access Point**

54/108 Mbps Wireless PCI Card

PART NO.	DESCRIPTION
065-1795	54/108 Mbps wireless PCI Card with external antenna connector

SPECIFICATIONS

STANDARDS
IEEE 802.11g, IEEE 802.11b
Modulation Type: BPSK, QPSK, 16 QAM, 64 QAM, OFDM
Frequency Band: 24–24,835 GHz ISM band
Operating Channels: 11 for N. America, 14 Japan, 13 Europe (ETSI), 2 Spain, 4 France
Data Rate: 802.11g: 108, 54, 48, 36, 24, 18, 12, 9 and 6 Mbp, 802.11b: 11, 5.5, 2, and 1 Mbps
Media Access Protocol: CSMA/CA with ACK

TRANSMITTER OUTPUT POWER
Typical RF Output Power at each Data Rate
+10 – 14 dBm at 54 Mbps; +11 – 15 dBm at 48 Mbps;
+13 – 15 dBm at 36 Mbps;
+17 – 18 dBm at 24, 18, 12, 9, and 6 Mbps

RECEIVER SENSITIVITY
Typical Sensitivity at Which Frame (1000-byte PDUs) Error Rate = 10%
-87 dBm at 6 Mbps; -86 dBm at 9 Mbps;
-85 dBm at 12 Mbps; -83 dBm at 18 Mbps;
-80 dBm at 24 Mbps; -76 dBm at 36 Mbps;
-71 dBm at 48 Mbps ; -66 dBm at 54 Mbps
External Antenna: Omni-directional dipole antenna with 2 dBi
Internal Consumption: Provides provision for an Internal Antenna attach (optional)

FORM FACTOR AND INTERFACE
PCI Local Bus 2.2 Compliance
Low-profile and half-length (PCI Raw Variable Height Short Card)
PCI 32-bit Interface
Operating Voltage: 5VDC +/- 10%

LEDs
Power LED, Network LED

GENERAL INFORMATION
General Information shows the name of Wireless Adapter, Adapter MAC Address, Regulatory Domain, Firmware Version and Utility Version

CURRENT LINK INFORMATION
Current Link Information shows the Current Setting ESSID, Channel Number, Associated BSSID, Network Type (infrastructure or Ad-hoc network), WEP Status (enable or disable), Link Status (Connect or Disconnect), 802.11g Transmit Speed (6, 9, 12, 18, 24, 36, 48, 54, and 108 Mbps), 802.11b Transmit Speed (1, 2, 5.5, 11 Mbps), Signal Strength, and Link Quality.

ESS ID
Input an SSID number if the roaming feature is enabled
Supports for ASCII printable characters

NETWORK TYPE
Ad-hoc Mode and 802.11 Ad-hoc Mode for network configurations that do not have any access point Infrastructure Mode for network configurations with access points

POWER SAVE
Extend the battery life of clients by allowing the client to sleep for short periods of time while the Access Point buffers the messages

ROAMING
Support Automatic or Manual Rescan to associate with access point

ENCRYPTION
RC4 encryption algorithm, Supports 64-bit, 128-bit, and 152-bit WEP and WPA encryption, Support open system (OSA) and shared key authentication (SKA)

DIMENSIONS
168 x 107 mm (6.6 x 4.2")

Wireless Broadband Router 802.11a/b/g

065-1756 Wireless 802.11A+G Broadband Router is a complete all-in-one networking solution for homes and small/medium enterprises. With its built-in 4 10/100 Mbps auto-sensing Ethernet switch ports, users can link multiple computers to Internet without any hassle. The built-in wireless function can let you connect wirelessly with your desktop or notebook computers from up to 300 meters away, and simultaneously in wireless A and G. The Wireless Router provides multiple levels of security: 64-bit/128-bit key WEP data encryption for high-level security. Moreover, the use of IEEE 802.1X offers an effective framework for authenticating and controlling user traffic to a protected network, as well as dynamically varying encryption keys. Proprietary wireless range extension technology expands wireless range at lower bit rate. 065-1756 is a special design for local network users to resist hackers from attacking your private network and share networking resource. Not only with the NAT as natural firewall, the build-in powerful advanced firewall proceeds SPI (Stateful Packet Inspection), stops LAN users accessing inappropriate web site, as well as setting the Internet accessing time schedule. Content filtering shields children from any inappropriateness allowing you to set levels for nudity, sex, violence, and language.

FEATURES

- **Provides High performance universal wireless network connectivity**
- **Ideal for multi-media data transmission with high speed wireless performance**
- **Enhanced security management to protect user network**
- **Supports VPN pass through, including IPSec and PPTP**
- **Supports routing ability**
- **Easy and fast installation and setup**

Wireless Broadband Router 802.11 a/b/g

PART NO.	DESCRIPTION
065-1756	Signamax Wireless Broadband Router 802.11a/b/g

SPECIFICATIONS

INTERFACE
Host Interface: WAN: 1x10/100Base-Tx (auto MDI/MDIX sensing)
LAN: 4x10/100Base-T Ethernet switch port (auto sensing)
LED indicator: LED x9: Power; DMZ, 11a, 11g, LAN1–LAN4, Internet
Antenna: 802.11a: 4dBi (Peak Gain), 802.11g: 2dBi (Peak Gain)

RADIO CHARACTERISTICS
Frequency Band: 802.11a:
US: UNI-Band 5.15 – 5.35 GHz,
EU: UNI-Band 5.15 – 5.35 GHz
UNI-Band 5.47 – 5.725 GHz, 802.11b/g:
ISM band 2.4 – 2.4835 GHz
Modulation: 802.11a/g: OFDM, 802.11b: CCK, DQPSK, DBPSK
Receive Sensitivity: 802.11a/g: 6 Mbps – 10-5 BER @ -91dBm, 9 Mbps – 10-5 BER @ -90dBm, 12 Mbps – 10-5 BER @ -89dBm, 18 Mbps – 10-5 BER @ -88dBml, 24 Mbps – 10-5 BER @ -85dBm, 36 Mbps – 10-5 BER @ -82dBm, 48 Mbps – 10-5 BER @ -75dBm, 54 Mbps – 10-5 BER @ -72 dBm, 108 Mbps – 10-5 BER @ -69dBm, Turbo Mode
Transmit Power: 802.11a: Max. 16dBm @ 16QAM R3/4, 802.11g: Typ: 16dBm @ Normal Temp Range, 802.11b: Typ: 18dBm @ Normal Temp Range
Data Rate: 802.11b[1]: 11 Mbps, 5.5 Mbps, 2 Mbps, 1 Mbps, (auto fallback);
802.11a/g: 108, 54, 48, 36, 24, 18, 12, 9, 6 Mbps, auto fallbac
Operating Range[2]:
802.11a: Up to 50 m (Outdoor)
802.11g: Up to 100 m (Outdoor)
Power Supply: Input: AC 85 – 132V, 0.35A Output: DC 5V, 2.5A

ENVIRONMENTAL
Dimension: 198 x 160 x 33 mm (L x W x H)
Weight: 700 g
Temperature: 0° – 40°C (Operating), -20° – 70°C (Storing)
Humidity: Operating 10-85% Non-Condensing, Storage 5-90% Non-Condensing

SOFTWARE FEATURES
Standard: 802.3, 802.11a, 802.11b, 802.11g
Protocol Support:TCP/IP, NetBEUI, IPX/SPX
Basics: DHCP client/server, NAT, PPPoE Client, DNS Proxy/Relay, Dynamic DNS
Security: 64/128-bit WEP encryption, WPAl802.1x (Authentication)
MAC address filtering, IP Filtering, Content Filtering, DoS prevention, Time-of-Day ACL
Advanced: DMZ Hosting, UPnP, VPN pass-through (IPSec/PPTP/L2TP), NTP
Management: Embedded Web configuration, Web, firmware upgrade, configuration backup and restore are supported, DHCP, Static IP, PPPoE, and PPTP login support

REQUIREMENT
Operating Systems: Win98SE/ME/2000/XP

CERTIFICATION
FCC class B, CE Mark

WARRANTY
2 years

PACKAGE CONTENT
Wirelress 802.11a+g Broadband Router
CD-ROM with User Guide, Quick Installation Guide, DC Power Adapter, RJ45 Cat. 5 UTP cable

[1] Support enhanced proprietary Super Mode up to 108 Mbps
[2] The transmission speed varies in the surrounding environment

5 GHz Indoor Access Point/Client/Bridge

Signamax 065-1755 Wireless 11a+g Dual-Band Access Point can be accessed in all three 802.11 wireless networks. 065-1755 contains two separate wireless connectivity radio transceivers, which support all three popular wireless networking specifications. One of the two transceivers uses 2.4 GHz frequency band and supports both wireless 802.11b and 802.11g, which offers up to 11 Mbps and 108 Mbps data rate respectively. The other transceiver uses 5 GHz frequency band and supports wireless 802.11a, also up to 108 Mbps. Since two radio waves operate in different frequency bands, they can work simultaneously and cover your wireless zone with high-speed performance. In terms of security, 065-1755 offers up to 128-bit WEP Encryption and also includes MAC address filtering, which allows you to assign Internet Access to those you permit. The configuration and installation is made to be simple and fast following the web browser-based setup wizard.

FEATURES & BENEFITS

- **Provide High performance universal wireless network connectivity**
- **Ideal for multi-media data transmission with high speed wireless performance**
- **Easy and fast installation and setup**
- **WDS: AP, Bridge, Repeater, and AP Client**
- **Atheros XRTM eXtended Range technology**

Access Point/Client/Bridge 802.11 a/b/g

PART NO.	DESCRIPTION
065-1755	Signamax Wireless 5GHz Access Point/Client/Repeater 802.11a/b/g

SPECIFICATIONS

INTERFACE
Ethernet LAN: One 10/100Base-T Ethernet switch port (auto sensing)
LED indicator: LED x4: Power, LAN, 11a link/Act, 11g link/Act
Antenna: 802.11a: 4dBi (Peak Gain), 802.11b/g: 2dBi (Peak Gain)
Reset Button: Reset to default setting (hold the reset button after 6 sec)

RADIO CHARACTERISTICS
Standard: IEEE 802.11a 802.11b and 802.11g for WLAN;
802.3 for wired LAN
Frequency Band: 802.11a: US: UNI-Band 5.15 – 5.35 GHz
EU: UNI-Band 5.15 – 5.35 GHz; UNI-Band 5.47 – 5.725 GHz
802.11b/g: ISM band 2.4 – 2.4835 GHz
Modulation: 802.11b: 11 Mbps & 5.5 Mbps CCK;
2 Mbps: DQPSK; 1 Mbps: BPSK
802.11g and 802.11a: OFDM
Media Access Protocol: CSMA/CA with ACK
Transmit Power: 802.11a: Max 16dBm@16QAM R3/4
802.11g: Typ. 16dBm@Normal Temp Range
802.11b: Typ. 18dBm@Normal Temp Range
Receive Sensitivity: 802.11a: 6 Mbps 10-5 BER @ -91dBm;
54 Mbps 10-5BER @ -72dBm; 108 Mbps 10-5BER @ -69dBm
802.11g: 11 Mbps 10-5 BER @ -85dBm; 54 Mbps 10-5 BER @ -72dBm;
108 Mbps 10-5BER @ -69dBm
Data Rate: 802.11b: 11, 5.5, 2, 1 Mbps, auto fallback
802.11g & 802.11a: 108, 54, 48, 36, 24, 18, 12, 9, 6 Mbps
Operating Range: 802.11b: up to 300 m (Outdoor), 35 – 60 m (Indoor)
802.11g: up to 50 m (Outdoor), 20 m (Indoor)
802.11a: up to 300 m (Open space), 100 m (Indoor)
* The performance various depend on environment.
Power Supply: Input: AC 85 – 132V, 0.35A , Output: DC 5V, 2.5A

ENVIRONMENTAL
Dimension: 195 x 160 x 27 mm (L x W x H)
Weight: 700 g
Temperature: 0° – 40°C (Operating), -20° – 70°C (Storing)
Humidity: 95% Non-Condensing

SOFTWARE FEATURES
Protocol Support: TCP/IP, IPX, NetBEUI
Security: Up to 64bit/128-bit WEP & WPA, MAC address filtering, IP Filtering, Content Filtering. DoS prevention, Time-of-Day ACL
Operating mode: AP, AP Client, Repeater,
P2P & P2MP Bridge
Management: Built-in HTTP Server for setup and remote management via any browser

POWER SUPPLY
Input: AC 85 – 132V, 0.35A
Output: DC 5V, 2.5A

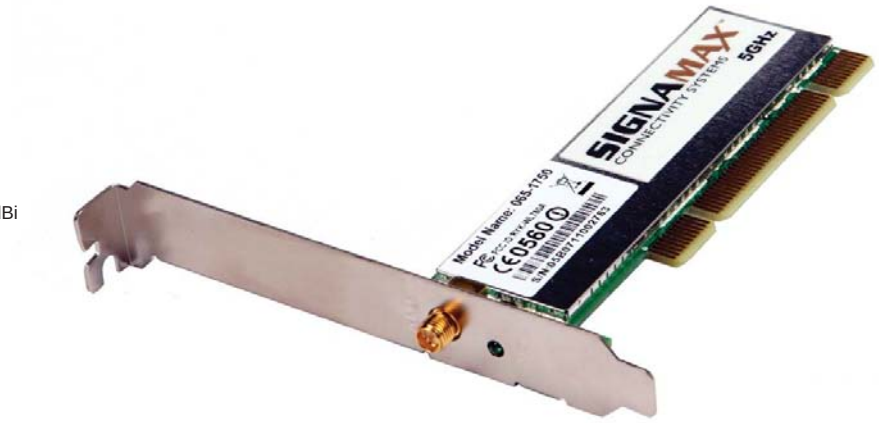
CERTIFICATION
FCC class B, CE Mark

WARRANTY
2 years

PACKAGE CONTENT
One Wireless AP, One CD-ROM with User Guide
One DC Power Adapter, One Quick Installation Guide
One RJ45 Cat.5 UTP cable

Wireless PCI Card 802.11a/b/g

Signamax 065-1750 Wireless 11a/b/g PCI Adapter offers high-speed wireless connection with a data rate up to 108 Mbps. 065-1750 supports seamless roaming from cell to cell in all types of wireless networks. You can place your desktop computers anywhere at home or in the office building without any wire limitation. The 065-1750 supports advanced security features including 64/128-bit Wired Equivalent Privacy (WEP) & WPA encryption for more secured user network environment. The 3dBi high gain Antenna makes 065-1750 more sensitive to the wireless surrounding. Wider and longer receiving range increases your Internet access mobility and still provides the speed you need for large file download, digital video and audio transmissions.



SPECIFICATIONS

INTERFACE
Host Interface: PCI rev2.3 Interface
LED indicator: Activity, Network Link
Antenna: Dual Band a: 3dBi antenna / b: 1dBi

RADIO CHARACTERISTICS
Standard: IEEE 802.3, 802.3u, 802.11a, 802.11b, 802.11g
Frequency Band: 802.11a:
US: UNI-Band 5.15 – 5.35 GHz
EU: UNI-Band 5.15 – 5.35 GHz,
UNI-Band 5.47 – 5.725 GHz
802.11b/g: ISM band 2.4 – 2.4835 GHz
Modulation: 802.11a/g: OFDM,
802.11b: CCK, DQPSK, DBPSK
Receive Sensitivity:
802.11a: -70dBm @54 Mbps 10% PER
802.11g: -72dBm @54 Mbps 10% PER
802.11b: -88dBm @11 Mbps 10% PER
Transmit Power: 802.11a: 11 – 18dBm;
802.11g: 15 – 19dBm
802.11b: 18 ±1dBm
Data Rate: 802.11a: 54, 48, 36, 24, 18, 12, 9, 6 Mbps per
channel, auto fallback; 802.11b: 11, 5.5, 2, 1 Mbps per channel, auto fallback;
802.11g[1]: 54, 48, 36, 24, 18, 12, 11, 9, 6, 5.5, 2, 1 Mbps per channel, auto fallback
Operating Range:
802.11a: Up to 50 m (Outdoor)
802.11g: Up to 100 m (Outdoor)

ENVIRONMENTAL
Dimension: 147 x 120 x 20 mm (L x W x H)
Weight: 104 g
Security: 802.11a: 64/128-Bit WEP, WPA
802.11b/g: 64/128-Bit WEP, WPA
Temperature: 0° – 60°C (Operating),
-20° – 80°C (Storing)
Humidity: Operating 10-85% Non-Condensing
Storage 5-90% Non-Condensing
Operating Voltage: 3.3V ±5%

REQUIREMENT
Operating Systems: Win98SE/ME/2000/XP

CERTIFICATION
FCC, CE

WARRANTY
2 years

PACKAGE CONTENT
Dual-Band Wireless 802.11a/b/g PCI Adapter
Setup CD-ROM with User Guide,
Quick Installation Guide

FEATURES

- **One adapter connects either 2.4 GHz (802.11b or 802.11g) or 5 GHz (802.11a) networks.**
- **Advanced security features with up to 128-bit WEP encryption**
- **Easy to setup**

BENEFITS

- **Dual-Band wireless adapter connects your destop PC to 802.11a, 802.11b, 802.11g wireless networks**
- **Protects your wireless communications with up to 128-bit encryption**
- **Incredible data rates up to 108 Mpbs**

PCI Card 802.11a/b/g

PART NO.	DESCRIPTION
065-1750	Signamax Wireless 5 GHz PCI Card 802.11a/b/g

Wireless PCMCIA Card 802.11a/b/g

The 065-1751 Wireless 11a/b/g CardBus Adapter offers high-speed wireless connection with a data rate up to 108 Mbps. It can provide the speed you need for large file download, digital video and audio transmissions. 065-1751 supports seamless roaming from cell to cell in all types of wireless networks. You can place your notebook anywhere at home or in the office building without any wire limitation. The 065-1751 supports advanced security features including 64/128-bit Wired Equivalent Privacy (WEP) & WPA encryption for more secured user network environment.

FEATURES

- **One adapter connects either 2.4 GHz (802.11b or 802.11g) or 5 GHz (802.11a) networks**
- **Advanced security features with up to 128-bit WEP encryption**
- **Easy to setup**

BENEFITS

- **Dual-Band wireless adapter connects your desktop PC to 802.11a, 802.11b, 802.11g wireless networks**
- **Protects your wireless communications with up to 128-bit encryption**
- **Incredible data rates up to 108 Mpbs**

Wireless PCMCIA Card 802.11a/b/g

PART NO.	DESCRIPTION
065-1751	Signamax Wireless 5 GHz PCMCIA Card 802.11a/b/g

SPECIFICATIONS

INTERFACE
Host Interface: CardBus Interface
LED indicator: Power, Network Link
Antenna: Integrated Dual Band diversity antenna

RADIO CHARACTERISTICS
Standard: IEEE 802.3, 802.3u, 802.11a, 802.11b, 802.11g
Frequency Band: 802.11a: US: UNI-Band 5.15 – 5.35 GHz
EU: UNI-Band 5.15 – 5.35 GHz, UNI-Band 5.47 – 5.725 GHz
802.11b/g: ISM band 2.4 – 2.4835 GHz
Modulation: 802.11a/g: OFDM
802.11b: CCK, DQPSK, DBPSK
Receive Sensitivity: 802.11a: -70dBm @54 Mbps 10% PER
802.11g: -72dBm @54 Mbps 10% PER
802.11b: -88dBm @11 Mbps 10% PER
Transmit Power: 802.11a: 11 – 18dBm; 802.11g: 15 – 19dBm
802.11b: 18 ±1dBm
Data Rate: 802.11a[1]: 54, 48, 36, 24, 18, 12, 9, 6 Mbps per channel, auto fallback; 802.11b: 11, 5.5, 2, 1 Mbps per channel, auto fallback
802.11g[1]: 54, 48, 36, 24, 18, 12, 11, 9, 6, 5.5, 2, 1 Mbps per channel, auto fallback
Operating Range[2]: 802.11a: Up to 50 m (Outdoor)
802.11g: Up to 100 m (Outdoor)

[1] Support enhanced proprietary Super Mode up to 108 Mbps
[2] The transmission speed varies in the surrounding environment

ENVIRONMENTAL
Dimension: 120 x 54 x 8 mm (L x W x H)
Weight: 42 g
Security: 802.11a: 64/128-Bit WEP, WPA
802.11b/g: 64/128-Bit WEP, WPA
Temperature: 0° – 60°C (Operating), -20° – 80°C (Storing)
Humidity:
Operating 10-85% Non-Condensing
Storage 5-90% Non-Condensing
Operating Voltage: 3.3V ±5%

REQUIREMENT
Operating Systems: Win98SE/ME/2000/XP

CERTIFICATION
FCC, CE

WARRANTY
2 years

PACKAGE CONTENT
Dual-Band Wireless 802.11a/b/g CardBus Adapter
Setup CD-ROM with User Guide, Quick Installation Guide

Wireless USB Dongle Adapter 802.11 a/b/g

The 065-1752 Wireless 11a/b/g USB Dongle offers high-speed wireless connection with a data rate up to 108 Mbps. It can provides the speed you need for large file download, digital video and audio transmissions. 065-1752 supports seamless roaming from cell to cell in all types of wireless networks. You can place your desktop computers anywhere at home or in the office building without any wire limitation. The 065-1752 supports advanced security features including 64/128-bit Wired Equivalent Privacy (WEP) & WPA encryption for more secured user network environment.

FEATURES

- **One adapter connects either 2.4 GHz (802.11b or 802.11g) or 5 GHz (802.11a) networks**
- **Advanced security features with up to 128-bit WEP encryption**
- **Easy to setup**

BENEFITS

- **Dual-Band wireless adapter connects your destop PC to 802.11a, 802.11b, 802.11g wireless networks**
- **Protects your wireless communications with up to 128-bit encryption**
- **Incredible data rates up to 108 Mpbs**

USB Dongle Adapter 802.11 a/b/g

PART NO.	DESCRIPTION
065-1752	Signamax Wireless USB Dongle Adapter 802.11a/b/g

SPECIFICATIONS

INTERFACE
Host Interface: USB2.0
LED indicator: Power
Antenna: Integrated Dual Band diversity antenna

RADIO CHARACTERISTICS
Standard: IEEE 802.3, 802.3u, 802.11a, 802.11b, 802.11g
Frequency Band: 802.11a: US: UNI-Band 5.15 – 5.35 GHz
EU: UNI-Band 5.15 – 5.35 GHz. UNI-Band 5.47 – 5.725 GHz
802.11b/g: ISM band 2.4 – 2.4835 GHz
Modulation: 802.11a/g: OFDM
802.11b: CCK, DQPSK, DBPSK
Receive Sensitivity: 802.11a: -70dBm @54 Mbps 10% PER
802.11g: -72dBm @54 Mbps 10% PER
802.11b: -88dBm @11 Mbps 10% PER
Transmit Power: 802.11a: 11 – 18dBm; 802.11g: 15 – 19dBm
802.11b: 18 ±1dBm
Data Rate: 802.11a[1]: 54, 48, 36, 24, 18, 12, 9, 6 Mbps per channel, auto fallback; 802.11b: 11, 5.5, 2, 1 Mbps per channel, auto fallback
802.11g[1]: 54, 48, 36, 24, 18, 12, 11, 9, 6, 5.5, 2, 1 Mbps per channel, auto fallback
Operating Range[2]: 802.11a: Up to 50 m (Outdoor)
802.11g: Up to 100 m (Outdoor)

[1] Support enhanced proprietary Super Mode up to 108 Mbps
[2] The transmission speed varies in the surrounding environment

ENVIRONMENTAL
Dimension: 80 x 25 x 10 mm (L x W x H)
Weight: 20 g
Security: 802.11a: 64/128-Bit WEP, WPA
802.11b/g: 64/128-Bit WEP, WPA
Temperature: 0° – 60°C (Operating), -20° – 80°C (Storing)
Humidity: Operating 10-85% Non-Condensing
Storage 5-90% Non-Condensing
Operating Voltage: 5V ±5%

REQUIREMENT
Operating Systems: Win2000/XP

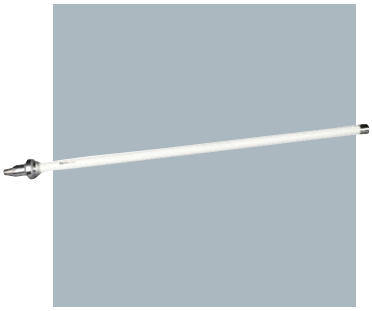
CERTIFICATION
FCC, CE

WARRANTY
2 years

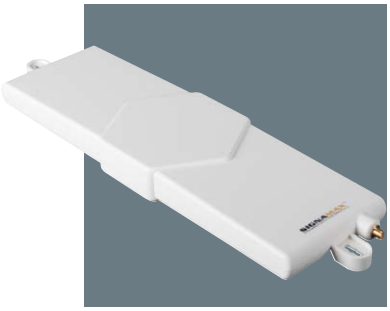
PACKAGE CONTENT
Dual-Band Wireless 802.11a/b/g USB Dongle
Setup CD-ROM with User Guide, Quick Installation Guide

Antenna series for WiFi units

065-2408



065-2412



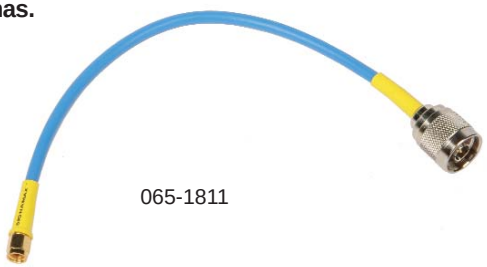
065-2411

Signamax antennas for 2,4GHz band

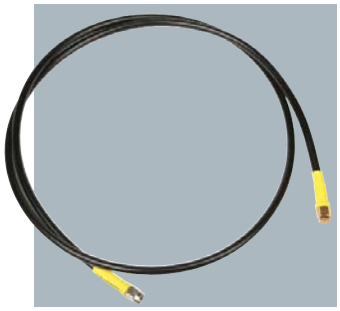
PART NO.	DESCRIPTION	CONNECTOR
065-2408	OMNI-8,5 Omnidirectional antenna, Gain 8,5 dBi, to be used in ISM band – 2,4 GHz, vertical HPBW, V25°	N female
065-2411	UNI-11 Unidirectional antenna, Gain 11,5 dBi, to be used in ISM band – 2,4 GHz, HPBW – H80°, V30°	SMA female
065-2412	OMNI-12 Omnidirectional antenna, Gain 12 dBi, to be used in ISM band – 2,4 GHz, HPBW – V20°	N female

Accessories for WiFi units

The 065-18xx Signamax series coaxial cable reductions are best to be used for connecting WiFi Access Point, Bridges, Clients and/or WiFi Routers to external antennas.



065-1811



065-1834

Signamax cables for connecting WiFi units to external antennas

PART NO.	DESCRIPTION	LENGTH
065-1811	Reduction from SMA female rev. (regular WiFi connector) to N male. Cable used: RG-58	0.25 m
065-1812	Reduction from SMA female rev. (regular WiFi connector) to N male. Cable used: RG-58	0.5 m
065-1813	Reduction from SMA female rev. (regular WiFi connector) to N male. Cable used: RG-58	0.75 m
065-1821	Reduction from SMA female rev. (regular WiFi connector) to N female. Cable used: RG-58	0.25 m
065-1822	Reduction from SMA female rev. (regular WiFi connector) to N female. Cable used: RG-58	0.5 m
065-1823	Reduction from SMA female rev. (regular WiFi connector) to N female. Cable used: RG-58	0.75 m
065-1832	Reduction from SMA female rev. (regular WiFi connector) to SMA male. Cable used: CNT-195	0.5 m
065-1834	Reduction from SMA female rev. (regular WiFi connector) to SMA male. Cable used: CNT-195	1 m
065-1836	Reduction from SMA female rev. (regular WiFi connector) to SMA male. Cable used: CNT-195	3 m
065-1838	Reduction from SMA female rev. (regular WiFi connector) to SMA male. Cable used: CNT-195	5 m

Signamax Antennas for 5 GHz band (5,400 – 5,725 and 5,725 – 5,875 GHz)

SPECIFICATIONS

065-5808
Frequency Range: 5,725 – 5,875 MHz
Gain: 8 dBi
Vertical Beamwidth: 16°
Horizontal Beamwidth: 360°
VSWR: ≤1.5
Nominal Impedance: 50 Ω
Polarization: Vertical
Max Power: 100W
Dimension: ≥20 x 350 mm
Weight: 200 g
Connector: N female
Rated Wind Velocity: 60 m/s

065-5812
Frequency Range: 5,725 – 5,875 MHz
Gain: 12dBi
Vertical Beamwidth: 7°
Horizontal Beamwidth: 360°
VSWR: ≤1.5
Nominal Impedance: 50 Ω
Polarization: Vertical
Max Power: 100W
Dimension: ≥20 x 540 mm
Weight: 500 g
Connector: N female
Rated Wind Velocity: 60 m/s

065-5818
Frequency Range: 5,150 – 5,350 / 5,725 – 5,875 MHz
Gain: 18 dBi
Horizontal Beamwidth: 40±5°
Vertical Beamwidth:40±5°
F/B Ratio: 15 dB
VSWR: ≤1.5
Nominal Impedance: 50 Ω
Polarization: Vertical
Max Power: 100W
Connector: N female
Dimension: 190 x 216 x 50 mm

065-5824
Frequency range: 5,725 – 5,875 MHz
Gain: 24 dBi
VSWR: ≤1.5
Nominal Impedance: 50 Ω
Polarization: Vertical or Horizontal
Max Power: 100W
Connector: N Female
Horizontal Beamwidth: 9°
F/B ratio: ≥30 dB
Diameter: 0.4 m
Weight: 3 kg

065-5829
Frequency range: 5,725 – -5,875 MHz
Gain: 29 dBi
VSWR: ≤1.5
Nominal Impedance: 50 Ω
Polarization: Vertical or Horizontal
Max Power: 100W
Connector: N Female
Horizontal Beamwidth: 6 Degree
F/B ratio: ≥35 dB
Diameter: 0.6 m
Weight: 5 kg

065-5832
Frequency range: 5,725 – 5,850 MHz
Gain: 32.5 dBi
VSWR: ≤1.5
Nominal Impedance: 50 Ω
Polarization: Vertical or Horizontal
Max Power: 100W
Connector: N Female
Horizontal Beamwidth: 4°
F/B ratio: ≥38 dB
Diameter: 0.9 m
Weight: 10 kg

065-5423, 065-5429, 065-5431
Freq. Range: 5,400 – 5,725 MHz
Gain -dBi: 23.5, 28.5, 31.5
Hor. Beamwidth: 9, 6, 4°
Vert. Beamwidth: 9, 6, 4°
F/B Ratio: ≥30, ≥35, ≥38 dB
VSWR: ≤1.65
Input Impedance: 50 Ω
Polarization: Vertical or Horizontal
Max. Power: 100W
Connector: N Female
Diameter: 0.4, 0.6, 0.9 m
Weight: 3, 5, 10 kg

Antennas for 5 GHz communication system

PART NO.	DESCRIPTION
065-5808	OMNI-directional antenna, Gain 8 dBi, Band 5,725 – 5,875 GHz, Vert. pol., connector N Female
065-5812	OMNI-directional antenna, Gain 12 dBi, Band 5,725 – 5,875 GHz, Vert. pol., connector N Female
065-5818	UNI-directional antenna, Gain 18 dBi, Band 5,725 – 5,875 GHz, Vert./Hor. pol., connector N Female
065-5824	UNI-directional antenna, Gain 24 dBi, Band 5,725 – 5,875 GHz, Vert./Hor. pol., connector N Female
065-5829	UNI-directional antenna, Gain 29 dBi, Band 5,725 – 5,875 GHz, Vert./Hor. pol., connector N Female
065-5832	UNI-directional antenna, Gain 32 dBi, Band 5,725 – 5,875 GHz, Vert./Hor. pol., connector N Female
065-5423	UNI-directional antenna, Gain 23,5 dBi, Band 5,400 – 5,725 GHz, Vert./Hor. pol., connector N Female
065-5429	UNI-directional antenna, Gain 29,5 dBi, Band 5,400 – 5,725 GHz, Vert./Hor. pol., connector N Female
065-5431	UNI-directional antenna, Gain 31,5 dBi, Band 5,400 – 5,725 GHz, Vert./Hor. pol., connector N Female

Signamax Antennas for 5 GHz

The Signamax Antennas are designed by Signamax for the 5GHz communication system. After structure optimized and being tuned carefully, it has excelent performance such as very good VSWR, high gain nad big F/B Ratio etc. The strong structure and small dimension make it easy to install. Each antenna is tested by HP network analyzer strictly before delivery.

065-5020

Antennas for 5 GHz communication system

PART NO.	DESCRIPTION
Antennas for 5,150 – 5,875 GHz Band	
065-5018	UNI-directional antenna, Gain 18 dBi, Band 5,150 – 5,875 GHz, Vert./Hor. pol., connector N Female
065-5020	UNI-directional antenna, Gain 20 dBi, Band 5,150 – 5,875 GHz, Vert./Hor. pol., connector N Female
Antennas for 5,725 – 5,875 GHz Band	
065-5808	OMNI-directional antenna, Gain 8 dBi, Band 5,725 – 5,875 GHz, Vert. pol., connector N Female
065-5812	OMNI-directional antenna, Gain 12 dBi, Band 5,725 – 5,875 GHz, Vert. pol., connector N Female
065-5818	UNI-directional antenna, Gain 18 dBi, Band 5,725 – 5,875 GHz, Vert./Hor. pol., connector N Female
065-5824	UNI-directional antenna, Gain 24 dBi, Band 5,725 – 5,875 GHz, Vert./Hor. pol., connector N Female
065-5829	UNI-directional antenna, Gain 29 dBi, Band 5,725 – 5,875 GHz, Vert./Hor. pol., connector N Female
065-5832	UNI-directional antenna, Gain 32 dBi, Band 5,725 – 5,875 GHz, Vert./Hor. pol., connector N Female
Antennas for 5,400 – 5,725 GHz Band	
065-5417	Sector antenna, Gain 17dBi, Angle 90 deg., Band 5,400 – 5,725 GHz, Vert./Hor. pol., connector N Female
065-5423	UNI-directional antenna, Gain 23,5 dBi, Band 5,400 – 5,725 GHz, Vert./Hor. pol., connector N Female
065-5429	UNI-directional antenna, Gain 29,5 dBi, Band 5,400 – 5,725 GHz, Vert./Hor. pol., connector N Female
065-5431	UNI-directional antenna, Gain 31,5 dBi, Band 5,400 – 5,725 GHz, Vert./Hor. pol., connector N Female

SPECIFICATIONS

065-5018
Frequency Range: 5,150 – 5,875 MHz
Gain: 18 dBi
Vertical Beamwidth: 20°
Horizontal Beamwidth: 20°
VSWR: ≤1.5
Nominal Impedance: 50 Ω
Polarization: Vertical / Horizontal
Max Power: 100W
Dimension: 190 x 216 x 50 mm
Weight: 1.1 kg
Connector: N female
Rated Wind Velocity: 60 m/s

065-5020
Frequency Range: 5,150 – 5,875 MHz
Gain: 20 dBi
Vertical Beamwidth: 16°
Horizontal Beamwidth: 16°
VSWR: ≤1.5
Nominal Impedance: 50 Ω
Polarization: Vertical / Horizontal
Max Power: 100W
Dimension: 190 x 216 x 50 mm
Weight: 1.1 kg
Connector: N female
Rated Wind Velocity: 60 m/s

065-5808
Frequency Range: 5,725 – 5,875 MHz
Gain: 8 dBi
Vertical Beamwidth: 16°
Horizontal Beamwidth: 360°
VSWR: ≤1.5
Nominal Impedance: 50 Ω
Polarization: Vertical
Max Power: 100W
Dimension: ≥20 x 350 mm
Weight: 200 g
Connector: N female
Rated Wind Velocity: 60 m/s

065-5812
Frequency Range: 5,725 – 5,875 MHz
Gain: 12 dBi
Vertical Beamwidth: 7°
Horizontal Beamwidth: 360°
VSWR: ≤1.5
Nominal Impedance: 50 Ω
Polarization: Vertical
Max Power: 100W
Dimension: ≥20 x 540 mm
Weight: 500 g
Connector: N female
Rated Wind Velocity: 60 m/s

065-5818
Frequency Range : 5,150 – 5,350/
5,725 – 5,875 MHz
Gain: 18 dBi
Horizontal Beamwidth: 40±5°
Vertical Beamwidth: 40±5°
F/B Ratio: 15 dB
VSWR: ≤1.5
Nominal Impedance: 50 Ω
Polarization: Vertical
Max Power: 100W
Connector: N female
Dimension: 190 x 216 x 50 mm

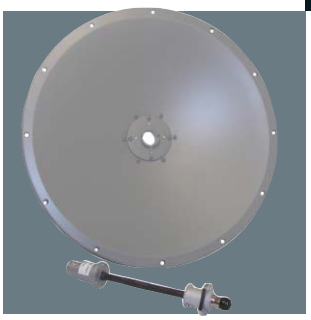
065-5824
Frequency range: 5,725 – 5,875 MHz
Gain: 24 dBi
VSWR: ≤1.5
Nominal Impedance: 50 Ω
Polarization: Vertical or Horizontal
Max Power: 100W
Connector: N Female
Horizontal Beamwidth: 9°
F/B ratio: ≥30 dB
Diameter: 0.4 m
Weight: 3 kg

065-5829
Frequency range: 5,725 – 5,875 MHz
Gain: 29 dBi
VSWR: ≤1.5
Nominal Impedance: 50 Ω
Polarization: Vertical or Horizontal
Max Power: 100W
Connector: N Female
Horizontal Beamwidth: 6°
F/B ratio: ≥35 dB
Diameter: 0.6 m
Weight: 5 kg

065-5832
Frequency range: 5,725 – 5,850 MHz
Gain: 32.5 dBi
VSWR: ≤1.5
Nominal Impedance: 50 Ω
Polarization: Vertical or Horizontal
Max Power: 100W
Connector: N Female
Horizontal Beamwidth: 4°
F/B ratio: ≥38 dB
Diameter: 0.9 m
Weight: 10 kg

065-5417
Frequency Range: 5,400 – 5,725 MHz
Gain: 17 dBi
Vertical Beamwidth: 20°
Horizontal Beamwidth: 90°
VSWR: ≤1.5
Nominal Impedance: 50 Ω
Polarization: Vertical / Horizontal
Max Power: 100W
Dimension: 190 x 216 x 50 mm
Weight: 1,1 kg
Connector: N female
Rated Wind Velocity: 60 m/s

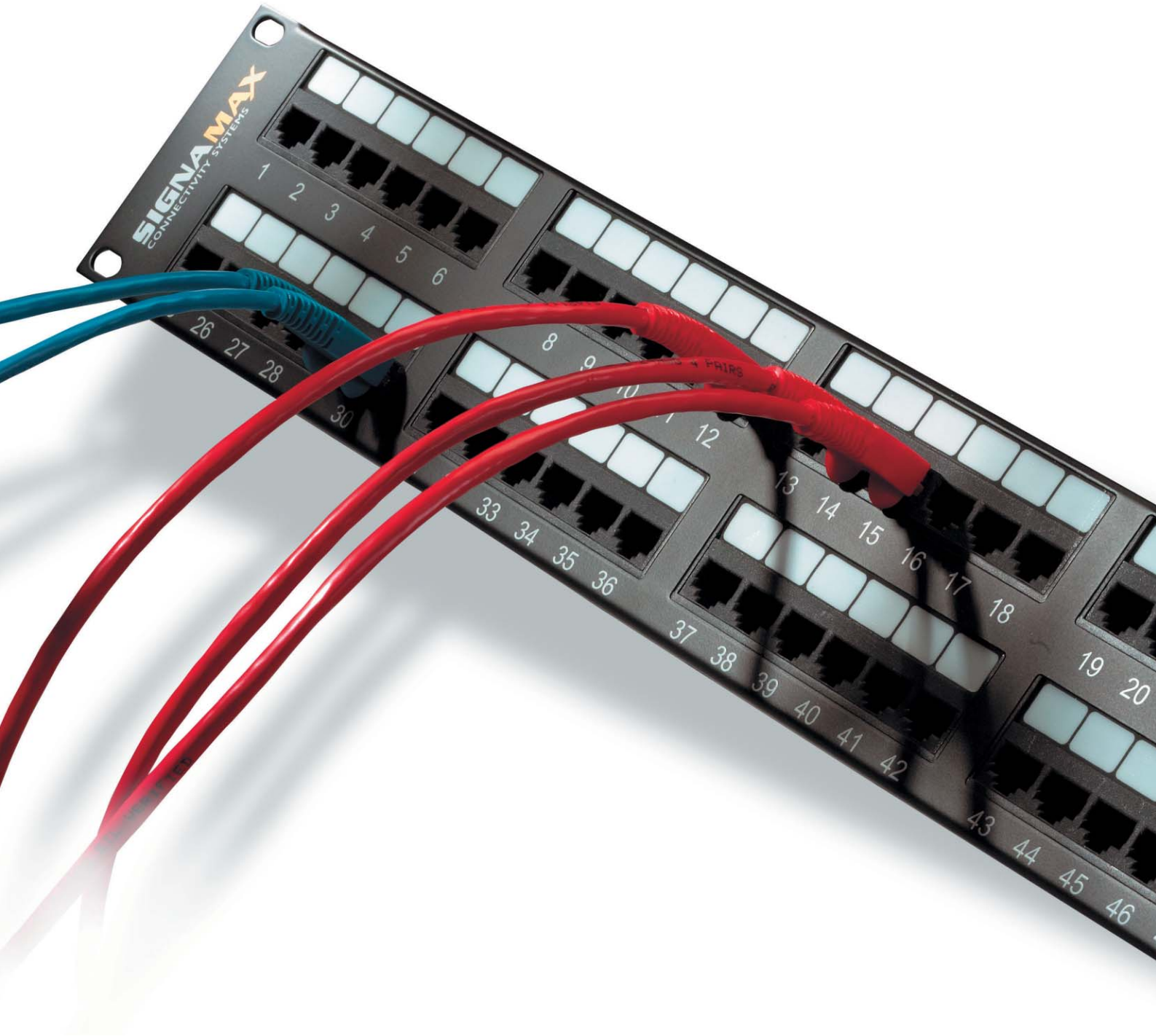
065-5423, 065-5429, 065-5431
Freq. Range: 5,400 – 5,725 MHz
Gain: 23.5, 28.5, 31.5 dBi
Hor. Beamwidth: 9, 6, 4°
Vert. Beamwidth: 9, 6, 4°
F/B Ratio: ≥30, ≥35, ≥38 dB
VSWR: ≤1.65
Input Impedance: 50 Ω
Polarization: Vertical or Horizontal
Max. Power: 100W
Connector: N Female
Diameter: 0.4, 0.6, 0.9
Weight: 3, 5, 10 kg



Model 065-5423

Model 065-5020

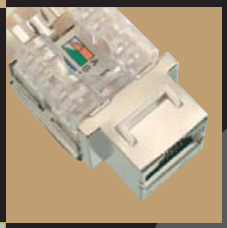
NETWORK CONNECTIVITY SYSTEMS

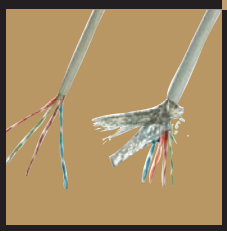


SIGNAMAX
CONNECTIVITY SYSTEMS

10GBaseT
compatible

Structured Cabling





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Introduction to Structured Cabling

What is Structured Cabling?

Structured Cabling Testing

10GBaseT and Structured Cabling

Introduction to Structured Cabling

History

Until the beginning of the 1980's, the majority of computer networks worked in the host/terminal mode. Applications as well as data were stored centrally on a host computer and user stations, so-called terminals, handled them in this centralized way. Considering the text character of this type of communication, it was not necessary to build special high capacity transmission paths in terminal networks.

The prevalence of terminal networks ended in 1981 when IBM launched their first personal computer onto the market. This new type of work station, which, contrary to terminals, was equipped with a local memory and their own outputs for connecting peripherals, meant a different—decentralized—mode of operation for users. This greater independence, however, brought two important issues,

1. Difficult administration of workstations (i.e. problem solving and software installation).
2. Mutual user cooperation.

It was therefore necessary to find a way that would enable to connect the new PC's into a network, through which it would be possible to share files, applications, and costly peripherals in the same manner as it had been previously on terminal networks.

In the beginning, several solutions arose from different producers. The differences in applied technologies and the diversity in the components of these new systems, however, led to their mutual incompatibility. The solution was to design a universal system, which would set recommended standards determining the electrical and physical characteristics of cables as well as connecting hardware. At the beginning of the 1990's, therefore, the American National Standards Institute (ANSI) asked Telecommunications Industry Association (TIA) and Electronic Industries Alliance (EIA) to propose a uniform standard for cabling systems. One of the most suitable ways for the new cabling system design was to use the already existing solution introduced by the American telecommunication company AT&T. These networks used AT&T's telephone distribution systems that were installed in most administrative buildings. They had a star topology and used a twisted pair cable as the main transmission medium. The outcome of the Standards Commission work was the first specification for structured cabling, which was published in July 1991 and was referred to as ANSI/TIA/EIA 568. Together with technical bulletins TSB-36 and TSB-40 issued a little later, the standard defined the basic transmission requirements for Category 3, 4, and 5.

In 1995, the first update of the above mentioned standard and also the first version of an international ISO/IEC 11801 standard were issued. A year later, in 1996, the organization CENELEC published the first European standard for structured cabling, with the designation EN 50173. As a result of a new high-speed protocols development (e.g. Gigabit Ethernet), these standards were updated in 2000 and 2002. The updates defined new parameters, which must be met by structured cabling components in order to comply with the new protocol requirements. The standards were supplemented with further measured or numerated parameters, such as PSNEXT, PSACR, PSELFEXT, Delay Skew, and so on. In these specification updates new Category 5 (today known as Category 5e, please see bellow for more information), and later Category 6 as well as Category 7, were introduced.

Introduction to Structured Cabling

Currently existing categories

Category 3—this is the first and thus oldest category in structured cabling. In the beginning, Category 3 components were used for both voice and data transmissions. The bandwidth was defined up to 16 MHz with data rates of 10 Mbps. Today, Category 3 is predominantly used only for telephone distribution systems (e.g. connection from ISDN patch panels to telephone PBX board, telephone equipment cords etc).

Category 5e—at present, Category 5e (or Enhanced Category 5) is still the most frequently used category in structured cabling. The first standard for Category 5e was published in 2000 and was referred to as ANSI/TIA/EIA 568B.1 (for the American standards), CENELEC EN 50173-1:2000 (for the European standards), and ISO /IEC 11801:2000 (for the international standards). In CENELEC as well as ISO/IEC specifications it is still referred to as Category 5 (i.e. not Category 5e). The “Category 5e” is officially used only in ANSI/TIA/EIA standards; it was originally introduced by the manufactures themselves in order to distinguish between the already existing Category 5 components and the “new” improved Category 5 products (i.e. today known as Category 5e). As mentioned above, Category 5e structured cabling components are suitable for the Gigabit Ethernet protocol (i.e. 1000BaseT), which should fit the requirements of most company networks with regular data traffic. However, the 1 Gbps transmission rate is the limit for all Category 5e components and no further improvement will be possible.

Category 6—the final specification of Category 6 was published in 2002. The document update is known as ANSI/TIA/EIA 568B.2-1 (for the American standards), EN 50173-1:2002 (for the European standards), and ISO/IEC 11801:2002 (for the international standards). Category 6 is specified up to 200 MHz (standard bandwidth) and 250 MHz (testing bandwidth). The double available bandwidth in comparison with Category 5e requires higher component quality. On the other hand, if these quality requirements are met, Category 6 components offer improved performance and transmission reliability.

Category 6a—a new category that is currently being defined by the organizations that set the standard recommendations for structured cabling. The “new” Category 6 will be referred to as “Augmented Category 6” or “Category 6a”. It is developed specifically for the new 10GBaseT Ethernet protocol in mind. Category 6a will offer 500 MHz bandwidth and thus will be suitable for the most data-intensive applications used on metallic computer networks. You can learn more about the 10GBaseT protocol as well as Category 6a further on in this catalogue (please see the “10GBaseT and Structured Cabling” section).

Category 7—this category was first mentioned in 1997, however, its specification was not finished before 2002. Now Category 7 is specified in CENELEC EN 50173-1:2002 and ISO/IEC 11801:2002 standards; in the TIA/EIA standards Category 7 is not mentioned. The bandwidth that is defined for the current Category 7 is 600 MHz (standard bandwidth) and 750 MHz (testing bandwidth). With reference to the Category 6a and its 500 MHz frequency, it will be necessary to re-define the current Category 7. It is estimated that a “new” Category 7 will be introduced and it will be referred to as “Augmented Category 7” or “Category 7a” with the bandwidth of up to 1,000 MHz.

The table bellow shows supported protocols, bandwidth, maximum transmission rates, and recommended use for all categories.

	Cat 3	Cat 4	Cat 5	Cat 5e	Cat 6	Cat 6a	Cat 7	Cat 7a
Supported Protocols	Analog. Voice, ISDN, 10BaseT	IBM Token Ring	100BaseT and lower	1000BaseT and lower	1000BaseTX and lower	10GBaseT and lower	10GBaseT and lower	10GBaseT and lower
Bandwidth	16 MHz	20 MHz	100 MHz	100 MHz	200 MHz/ 250 MHz	500 MHz	600 MHz/ 750 MHz	1,000 MHz
Maximum Transmission Rate	10 Mbps	16 Mbps	100 Mbps (Fast Ethernet)	1,000 Mbps (Gigabit Ethernet)	1,000 Mbps (Gigabit Ethernet)	10 Gbps	10 Gbps	10 Gbps
Usability	Predominantly telephone distribution systems	No longer installed	No longer installed	Regular data and voice traffic	Higher data traffic (multimedia, streaming)	High data traffic, backbone distribution systems, SAN	High data traffic, backbone distribution systems, SAN	High data traffic, backbone distribution systems, SAN

Introduction to Structured Cabling

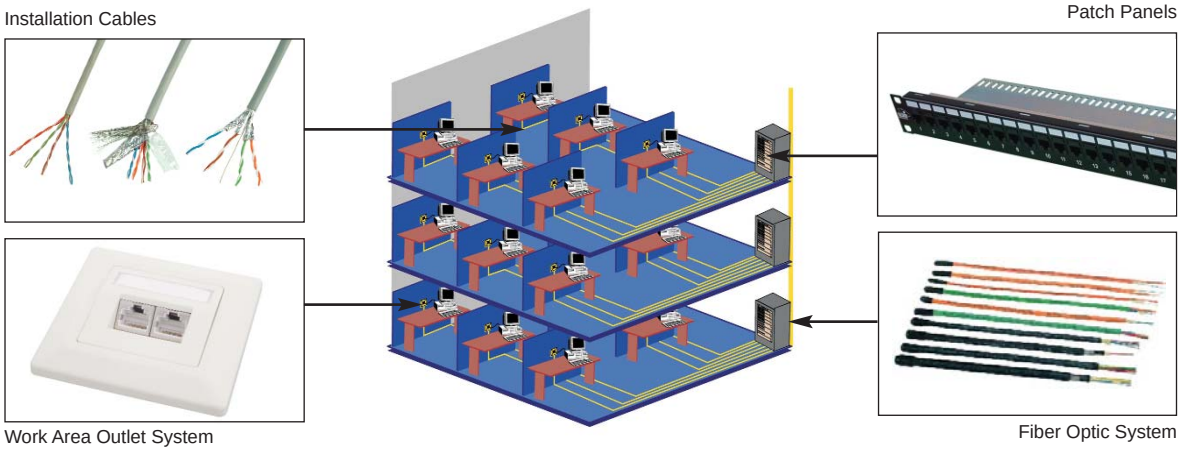
In the ISO/IEC 11801 generic cabling standard document, further copper cabling distinctions referred to as “Classes” were introduced. Classes are used for classifying the permanent link or channel performance rather than for rating the individual structured cabling components. The brief description of all classes as specified in the ISO/IEC standard is the following:

Class A – analogue voice telephony with the bandwidth of up to 10 KHz.
Class B – frequencies up to 1 MHz for voice and slow data links (i.e. IBM 3270 terminals etc.)
Class C – this class corresponds to a permanent link or channel performance using Category 3 components. Similarly to Category 3, it covers the bandwidth of up to 16 MHz. Its primary application today is to classify telephone distribution systems.
Class D – ratified in 1995 but updated in 2000 and 2002. Today Class D covers the bandwidth of up to 100 MHz.
Class E – this class was finished in 2002. Class E corresponds to the permanent link or channel performance using Category 6 components with the bandwidth of up to 200 MHz as standard and 250 MHz as the bandwidth to which Class E/Category 6 is actually tested.
Class F – this class covers the standard bandwidth of up to 600 MHz and the testing bandwidth of up to 750 MHz. Class F corresponds to the permanent link or channel performance of Category 7 components.

What is Structured Cabling?

Structured cabling is a universal system

- **that supports digital as well as analog signal transmissions,**
- **in which the telecommunication outlets are installed even in locations where they are not needed at the moment of installation,**
- **that use data cables with four twisted pairs and fiber cables,**
- **in which long technical and also moral service life is expected,**
- **whose correct functionality is as important for a company as the functioning of the electrical distribution system or any other system in company’s infrastructure.**



Structured Cabling Testing

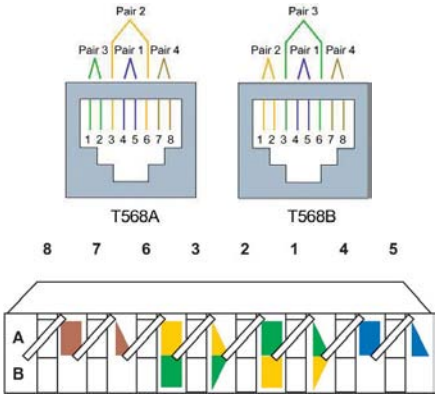
Testing has a major significance for the correct functionality of structured cabling. Testing devices are able to measure installed components and determine whether all requirements defined in the international standards necessary for reliable operation have been met. For Category 5e and Category 6 the following main parameters are measured:

Wire Map

This parameter checks the correct termination of cable wires in telecommunication outlets and patch panels, including the shielding in STP cabling. At the same time, it checks the signal throughput on the whole cable length—i.e. it is able to show any open-circuit or short circuit faults. The Wire Map parameter is very important but in itself it cannot ensure the correct functionality of an installed computer network.

What to do if the Wire Map parameter fails?

First, it is necessary to check whether the individual wires have been installed correctly in the termination block. If so (i.e. the wire map corresponds to the standardized T568A or T568B schemes) and the Wire Map parameter still fails, there could be several causes for this: an incorrectly terminated wire in the termination block, a wire interruption inside the cable, or a short-circuit. Advanced testing devices are able to determine the location of the fault with a relatively high accuracy and by doing so make fixing the problem easier.



T568A and T568B wire map schemes:

T568A	T568B
1. white-green	1. white-orange
2. green	2. orange
3. white-orange	3. white-green
4. blue	4. blue
5. white-blue	5. white-blue
6. orange	6. green
7. white-brown	7. white-brown
8. brown	8. brown

NEXT (Near End Cross Talk)

NEXT is the value that expresses how much signal can get from one pair to another pair within one cable. The measurement of cross-talk at the near end takes place at the same end of the cable as the location of the signal source. For this parameter, all combinations of pairs are measured within one cable—i.e. 12-36, 12-45, 12-78, 36-45, 36-78, 45-78. This measuring is done for both ends.

What to do if the NEXT parameter fails?

First, it is essential to find out at which end of the cable NEXT is showing the error (this function is supported by all advanced testing devices). Then it is necessary to check the maximum permitted unlaid of wires in one pair on the termination block—that should not be more than 13 mm. Typically for category 6, the 13 mm does not necessarily ensure that the NEXT parameter will pass so it is essential to keep the pair unlaid as short as possible. It is also important that the original twisting of each pair is preserved during installation and that there is no air core between the twisted wires in a pair. A frequent source of cross-talk problems can also be the use of cable couplings. Hence if a cable is not long enough, it is better to replace it with a cable of a corresponding length rather than use couplings.

Attenuation

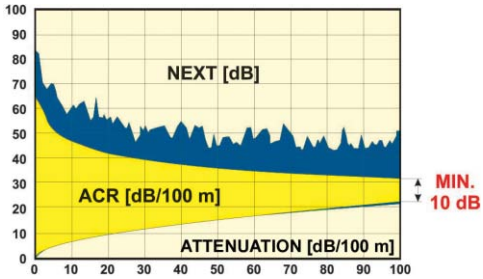
Attenuation shows the difference between the strength of the initial signal and the strength of the signal after it gets to the other end of the wire. It is caused mainly by the wire resistance and is usually larger for higher frequencies. Attenuation also increases as the diameter of the cable decreases—this means that a cable with a size of AWG 24 has a slightly higher attenuation than an AWG 23 cable.

What to do if the attenuation parameter fails?

The length of the horizontal cable must be checked—i.e. whether the electrical length of the link (the actual length of the twisted pairs inside the cable) corresponds to the maximum permitted permanent link of 90 m. A frequent cause of higher attenuation is also an incorrectly terminated wire in patch panels, outlets, or keystones.

Structured Cabling Testing

ACR (Attenuation to Crosstalk Ratio)
ACR is a theoretical parameter (i.e. it is not measured but is deduced from two previously measured values) which shows the margin between the NEXT and attenuation values: ACR [dB] = NEXT [dB] - A [dB]. If the level of attenuation meets or approaches the level of near end cross-talk, the transmitted signal will be lost. The interval between NEXT and attenuation must be at least 10 dB.



What to do if the ACR parameter fails?
As the ACR parameter is dependent on the NEXT as well as attenuation values, an improvement of these two parameters will influence the resulting ACR values.

FEXT (Far End Cross Talk)
FEXT expresses the cross-talk of the signal from one pair to another pair within one cable measured at the far end. This is the same parameter as NEXT, only with FEXT, the measurement is done at a different cable end. Again, all combinations of pairs are measured within one cable—i.e. 12-36, 12-45, 12-78, 36-45, 36-78, and 45-78. FEXT servers an important basis for the following ELFEXT parameter.

ELFEXT (Equal Level Far End Cross Talk)
ELFEXT corresponds much better to the actual situation during data transfer than FEXT. It is because the cross-talk inside the cable decreases as the attenuation increases. Just as with ACR, ELFEXT is a theoretical parameter (i.e. it is not measured but is calculated from other previously measured values): ELFEXT [dB] = FEXT [dB] - A [dB]. Thus ELFEXT is the cross-talk at the far end decreased by the attenuation.

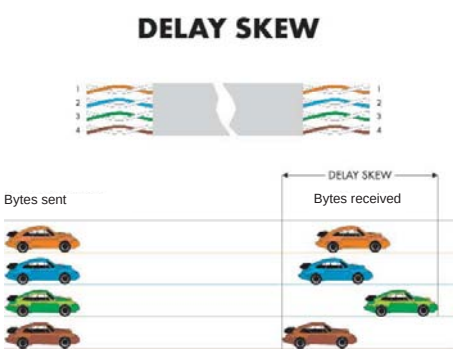
PSNEXT (Power Sum NEXT)
PSNEXT is a theoretical value calculated from the previously measured NEXT. The PSNEXT parameter is primarily important for protocols that use all four pairs for signal transfer (e.g. Gigabit Ethernet). The output sum of cross-talk at the near end shows how much signal gets from three pairs to the remaining fourth pair. The source of the signal and measurement of cross-talk takes place at the same end of the cable.

What to do if the PSNEXT parameter fails?
Just as with other parameters, PSNEXT is also influenced by the measured values of NEXT. Thus, an improvement in the near end cross-talk value will affect the resulting value of PSNEXT.

PSELFEXT (Power Sum ELFEXT)
PSELFEXT is calculated from the ELFEXT value. Just like PSNEXT, this parameter is important for protocols that use all four pairs for signal transfer. PSELFEXT expresses how much signal in the same cable gets from three pairs to the remaining fourth pair. The source of the signal and measurement of cross-talk takes place at opposite ends of the cable.

Propagation Delay
This value expresses a delay of the signal travelling from one end of the cable to the other. The typical delay of the signal in a category 5e cable is around 5 ns per 1 m; the permitted limit is 5.7 ns per 1 m, which is 570 ns per 100 m. Propagation Delay also serves as a basis for testing the Delay Skew value.

Delay Skew
Delay Skew shows the difference in signal delay between the fastest and the slowest pair. The Delay Skew parameter is affected by (1.) different length of the pairs; (2.) difference in material (resistance, impedance etc.); (3.) the effect of surrounding interference. If the difference is too great, there can be an incorrect interpretation of data by the active device (usually a switch, network card, etc.). Just as for PSNEXT and PSELFEXT, the Delay Skew parameter is critical for protocols that use all four pairs, such as Gigabit Ethernet.

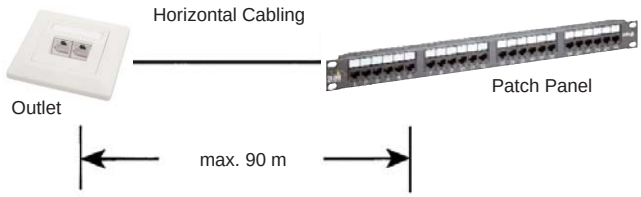


Structured Cabling Testing

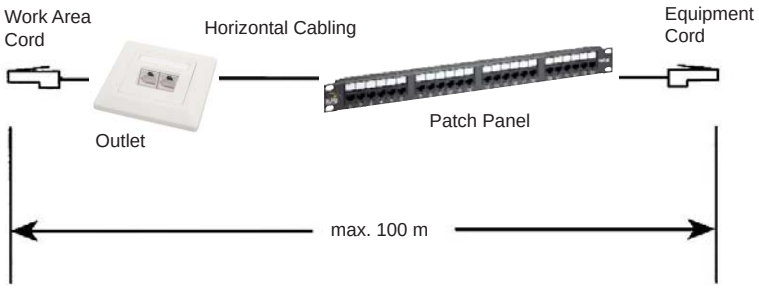
Length
There is a direct proportionality between the length and attenuation (i.e. the longer the length of cable, the higher the attenuation). Testing devices use so-called TDR (Time Domain Reflectometery) for measuring lengths. This means that a pulse is sent down the cable, then it is reflected back onto the remote unit, and subsequently the time during which the pulse travels the whole track is recorded. Based on the NVP (i.e. Nominal Velocity of Propagation, which expresses the signal speed in the cable as compared to the speed of light in a vacuum), the length of the measured segment is calculated. This concerns the length of the twisted pairs inside the cable (so-called electrical length), not “untangled” cable (so-called physical length). At 85 m, the variation between electrical and physical length can be up to 5 m depending on the twisting of each pair.

Return Loss
Return Loss shows the reflection of the signal because of varying impedance at different cable parts. Due to these impedance imbalances, part of the energy can return to the transmitter, which can cause the signal interference.

When testing structured cabling, two basic topologies are used:
Permanent link—the connection from the patch panel to the work area telecommunication outlet (i.e. horizontal cabling); this is the most permanent fixture on the structured caballing and cannot easily be taken apart. The maximum permitted length is 90 m.



Channel—the connection from the active device (e.g. switch) in the data rack to the network card in the computer, patch cords included. The recommended maximum length of an equipment cord in the data rack is 5 m; the maximum recommended length for work area cord is 20 m. The length of the channel (i.e. the horizontal caballing plus equipment cord as well as work area cord) should not exceed 100 m.



10GBaseT and Structured Cabling

Gigabit Ethernet was, until recently, considered to be the limit that would be very difficult to overcome on metallic structured cabling. Now it is obvious that 1Gbps will not be the maximum transmission rate that can be achieved on copper twisted pair cables. The new **10GBaseT** Ethernet standard that has recently been published by the IEEE 802.3an group proves this. In the first stage, this new protocol with transmission speeds of up to 10Gbps will be primarily employed in backbone distribution systems, SAN's (Storage Area Networks), and data centres.

At present, the organizations that are involved in setting the standards for structured cabling (i.e. ANSI/TIA/EIA, CENELEC and ISO/IEC) are trying to find out:

1. Whether it will be possible to run 10GBaseT protocol on currently existing cabling.
2. The definition of new requirements for so-called third generation cabling systems specifically designated for 10GBaseT.

1. Running 10GBaseT on currently existing cabling

It will be possible to run 10GBaseT for a distance of up to 55 m on current unshielded Category 6 cabling. The factor that plays an important role in this length limitation is the so-called Alien Crosstalk (see below). On the other hand, it is believed that current shielded Category 6 and Category 7 cabling will enable to run 10GBaseT even to the full distance (i.e. 100 m). On Category 5e cables, it will not be possible to operate 10GBaseT on any regular cable lengths.

2. New requirements for future cabling systems for 10GBaseT

A "new" Category 6 with bandwidth of up to 500 MHz will be defined. The cable attenuation will correspond to the requirements for current Category 7. This new category will be referred to as "Augmented Category 6" or "Category 6a" and will be defined in the upcoming structured cabling specification updates (e.g. TIA/EIA 568B.2-10). These updates are currently available only in drafts and have not been published for the wide public yet. The primary aim of the new category 6a is to achieve the full length also on unshielded cabling.

Similarly to Category 6a, a "new" Category 7 will be defined. It will be referred to as "Augmented Category 7" or "Category 7a" with bandwidth of up to 1,000 MHz (as compared to 600 MHz of the current Category 7).

One of the most important newly measured parameters for 10GBaseT (especially for unshielded cabling) will be Alien Cross Talk. It is a parameter that measures crosstalk from external sources (e.g. other cables in a bundle, electronic devices, telephones, etc.). Presently, it is being worked out how to measure the Alien Cross Talk. It is estimated that the specifications for the above mentioned categories will be finished in 2007.

Signamax Category 7 shielded cable parameters (at temperature of 20°C).
The cable supports 10GBaseT. See page K1 for more.

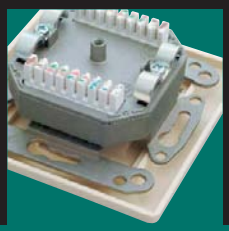
f (MHz)	Attenuation (dB/100 m)	NEXT (dB)	PS-NEXT (dB)	ACR (dB/100 m)	PS-ACR (dB/100 m)	ELFEXT (dB/100 m)	PS-ELFEXT (dB/100 m)	Return loss (dB)
1	1.8	100	97	98	95	105	105	–
4	3.4	100	97	97	94	105	102	27
10	5.4	100	97	95	92	97	94	30
16	6.8	100	97	93	90	93	90	30
20	7.7	100	97	92	89	91	88	30
31.2	9.6	100	97	90	87	87	84	30
62.5	13.7	100	97	86	83	81	78	30
100	17.4	100	97	83	80	77	74	30
125	19.5	95	92	75	72	75	72	26
155.5	21.9	94	91	72	69	73	70	26
175	23.3	93	90	70	67	72	69	25
200	25.0	92	89	67	64	71	68	25
250	28.1	90	87	62	59	69	66	24
300	30.9	89	86	58	55	67	64	24
450	38.3	87	84	48	45	64	61	23
600	44.8	85	82	40	37	61	58	22
750	52.0	83	80	31	28	59	56	21
900	59.4	82	79	23	20	58	55	20

Signamax Category 6/6a shielded cable parameters (at temperature of 20°C).
The cable supports 10GBaseT. See page K2 for more.

f (MHz)	Attenuation (dB/100 m)	NEXT (dB)	PS-NEXT (dB)	ACR (dB/100 m)	PS-ACR (dB/100 m)	ELFEXT (dB/100 m)	PS-ELFEXT (dB/100 m)	Return loss (dB)
1	1.8	100	97	98	95	105	105	–
4	3.4	100	97	97	94	105	102	27
10	5.4	100	97	95	92	97	94	30
16	6.8	100	97	93	90	93	90	30
20	7.7	100	97	92	89	91	88	30
31.2	9.6	100	97	90	87	87	84	30
62.5	13.7	100	97	86	83	81	78	30
100	17.4	100	97	83	80	77	74	30
125	19.5	95	92	75	72	75	72	26
155.5	21.9	94	91	72	69	73	70	26
175	23.3	93	90	70	67	72	69	25
200	25.0	92	89	67	64	71	68	25
250	28.1	90	87	62	59	69	66	24
300	30.9	89	86	58	55	67	64	24
400	38.3	87	84	48	45	64	61	23
500	44.8	85	82	40	37	61	58	22

NETWORK CONNECTIVITY SYSTEMS

SIGNAMAX™
CONNECTIVITY SYSTEMS



Work Area Outlet Systems

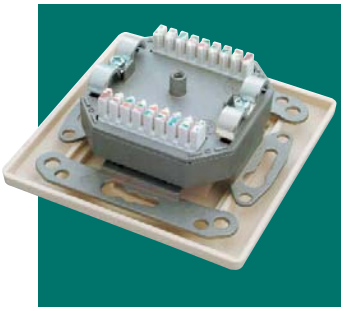
- Category 6 Wall Outlets
- Category 5e Wall Outlets
- Category 6 Keystone Jacks
- Category 5e Keystone Jacks
- Keystone Jack Modular Outlets
- Keystone Multimedia Modules

Category 6 Wall Outlets

Signamax Category 6 outlets are designed for an easy installation. This is ensured by strain relief providing cable positioning and screening contact between the shielded cable and metallic outlet housing. The outlet has a slim design and excellent EMC performance.

The modular construction of the outlet allows flush mounting or wall mounting installation using universal back box. The Signamax Category 6 outlets exceed all electrical parameters specified in the TIA/EIA 568-B.2-1, ISO/IEC 11801:2002, and EN 50173-1 standards. Both T568A and T568B wiring configurations are supported on the LSA+/Krone IDC termination block.

W45/6-2ESH/R



W45/6-2ESH/R back view uncovered

Category 6 Wall Outlets

PART NO.	DESCRIPTION
W45/6-2ESH/R	Shielded Wall Outlet Cat 6, 80 x 80 mm, color RAL 9010
W45/6-2ESH	Shielded Wall Outlet Cat 6, 80 x 80 mm, color RAL 1013
W45/6-2E/R	Unshielded Wall Outlet Cat 6, 80 x 80 mm, color RAL 9010
W45/6-2E	Unshielded Wall Outlet Cat 6, 80 x 80 mm, color RAL 1013
W45-AP80-32/R	Wall Mounted Back Box 80 x 80 x 32 mm, color RAL 9010
W45-AP80-32	Wall Mounted Back Box 80 x 80 x 32 mm, color RAL 1013

W45-AP80-32/R

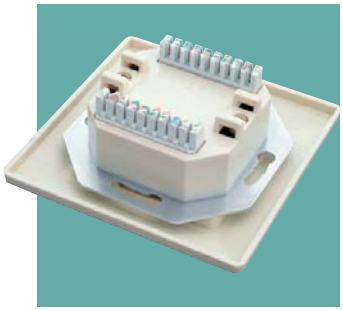
Category 5e Wall Outlets

For Signamax Category 5 Enhanced outlet its high transmission parameters is the key attribute. Two angled RJ45 ports are covered by plastic frame that fits trunking systems using 80 x 80 mm modules. Outlet has an excellent EMC performance and is developed for all demanding markets. Modular construction of the outlet allows flush mount or wall mount installation using universal back box. Space for port numbering stickers or direct marking above each port allows an easy administration and is user friendly.

W45/5-2E/R

Category 5e Wall Outlets

PART NO.	DESCRIPTION
W45/5-2ESH/R	Shielded Wall Outlet Cat 5e, 80 x 80 mm, color RAL 9010
W45/5-2ESH	Shielded Wall Outlet Cat 5e, 80 x 80 mm, color RAL 1013
W45/5-2E/R	Unshielded Wall Outlet Cat 5e, 80 x 80 mm, color RAL 9010
W45/5-2E	Unshielded Wall Outlet Cat 5e 80 x 80 mm, color RAL 1013
W45-AP80-32/R	Wall Mounted Back Box 80 x 80 x 32 mm, color RAL 9010
W45-AP80-32	Wall Mounted Back Box 80 x 80 x 32 mm, color RAL 1013



W45/5-2E/R back view uncovered

Category 6 Keystone Jacks

Signamax Connectivity Systems Category 6 Keystone Jacks have been designed to meet the need for high-bandwidth applications. Category 6 connectors are slim in profile for the highest density applications, and are engineered to exceed all TIA/EIA-568-B.2-1 Category 6 permanent link and channel level requirements. Category 6 jacks are fully tested to 250 MHz.

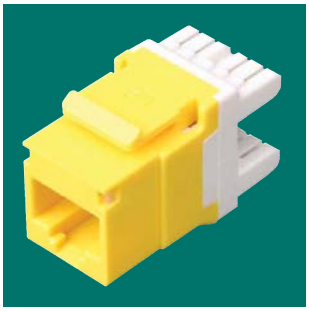
Category 6 jacks support both T568A and T568B wiring for maximum flexibility using an easy to read color-code wiring label and can be terminated using standard 110 or Krone termination tools. New contact design provide enhanced plug to jack connection integrity and protects against damage caused by insertion of 4 or 6 position plugs and are rated for 1,000 plug insertions providing for the highest level of system reliability.

These jacks feature the ability to mount either color-coded icon tabs for service identification or dust covers to protect unused jacks form dust and other contaminants. Jacks are available in various colors and are supplied with three color-matched icon tabs and dust covers for voice or data identification.

KJS458-C6

KJ458-C6-RD

KJ458-C6-WH


KJ458-C6-YE

KJ458-C6-BK

KJ458-C6-BK

Category 6 Unshielded Keystone Jacks

PART NO.	DESCRIPTION
KJ458-C6-WH	Category 6 Unshielded Keystone Jack, Universal Wiring T568A/B, White
KJ458-C6-BK	Category 6 Unshielded Keystone Jack, Universal Wiring T568A/B, Black
KJ458-C6-BU	Category 6 Unshielded Keystone Jack, Universal Wiring T568A/B, Blue
KJ458-C6-GN	Category 6 Unshielded Keystone Jack, Universal Wiring T568A/B, Green
KJ458-C6-RD	Category 6 Unshielded Keystone Jack, Universal Wiring T568A/B, Red
KJ458-C6-YE	Category 6 Unshielded Keystone Jack, Universal Wiring T568A/B, Yellow

Category 6 Shielded Keystone Jack

PART NO.	DESCRIPTION
KJS458-C6	Category 6 Shielded Keystone Jack, Universal Wiring, T568A/B

Category 5e Keystone Jacks

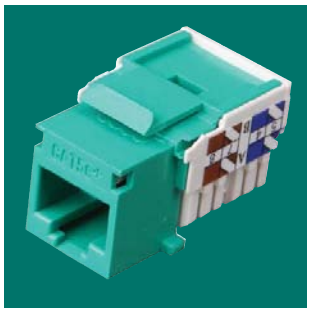
Category 5e Keystone Jacks exceed permanent link and channel level requirements as defined in TIA/EIA-568-B.2 and are fully tested to 155 MHz. Provide a sound platform for supporting all today's network operating systems including Gigabit Ethernet.

Category 5e jacks can be terminated with industry standard 110 or Krone termination tools and feature color-coding for both T568A and T568B wiring. Jacks feature the ability to mount either color-coded icon tabs for service identification or dust covers to protect unused jacks form dust and other contaminants. Jacks are available in various colors and are supplied with three color-matched icon tabs and dust covers for voice or data identification.

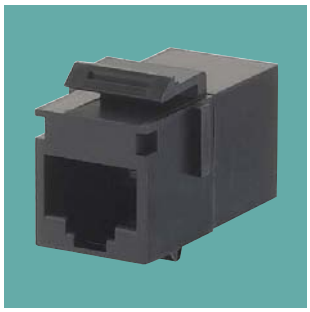
KJ458-C5E-BK

KJ458-C5E-WH

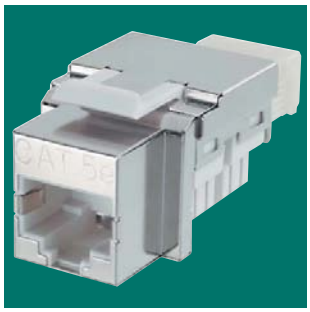
KJ458-C5E-YE



KJ458-C5E-GN



KRJ45/5S



KJS458-C5E

Category 5e Unshielded Keystone Jacks

PART NO.	DESCRIPTION
KJ458-C5E-WH	Category 5e Unshielded Keystone Jack, Universal Wiring T568A/B, White
KJ458-C5E-BK	Category 5e Unshielded Keystone Jack, Universal Wiring T568A/B, Black
KJ458-C5E-BU	Category 5e Unshielded Keystone Jack, Universal Wiring T568A/B, Blue
KJ458-C5E-GN	Category 5e Unshielded Keystone Jack, Universal Wiring T568A/B, Green
KJ458-C5E-RD	Category 5e Unshielded Keystone Jack, Universal Wiring T568A/B, Red
KJ458-C5E-YE	Category 5e Unshielded Keystone Jack, Universal Wiring T568A/B, Yellow

Category 5e Feed-Thru Coupler

PART NO.	DESCRIPTION
KRJ45/5S	Category 5e Panel Mount Feed-Thru Coupler, Black
KRJ45/5S-SH	Category 5e Shielded Panel Mount Feed-Thru Coupler, Black

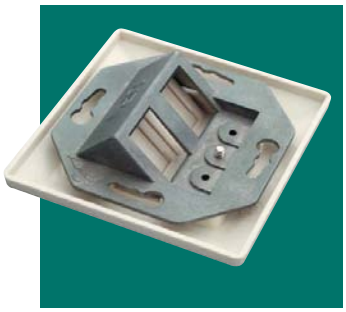
Category 5e Shielded Keystone Jack

PART NO.	DESCRIPTION
KJS458-C5E	Category 5e Shielded Keystone Jack, Universal Wiring, T568A/B

Keystone Jack Modular Outlets

Modular outlets from Signamax are dedicated to be user-friendly solution for customers who need high modularity in reasonable quality. Contains wide range of outlets and frames, each usable for all keystone jacks, modular jacks and faceplates from our portfolio.

KJGM-WH



KJGM-WH – back

Keystone Jack Modular Outlets

PART NO.	DESCRIPTION
KJGM	Modular Outlet for 2 x 45 Keystone, 80 x 80 mm, Ivory
KJGM-WH	Modular Outlet for 2 x 45 Keystone, 80 x 80 mm, White

Keystone Multimedia Modules

Signamax Premise Connectivity System offers a wide range of keystone connector modules designed to create a customized multimedia solution in any single or double gang faceplate or surface mount box. Applications include wide variety of small form factor fiber optic couplers.

CMK-ST

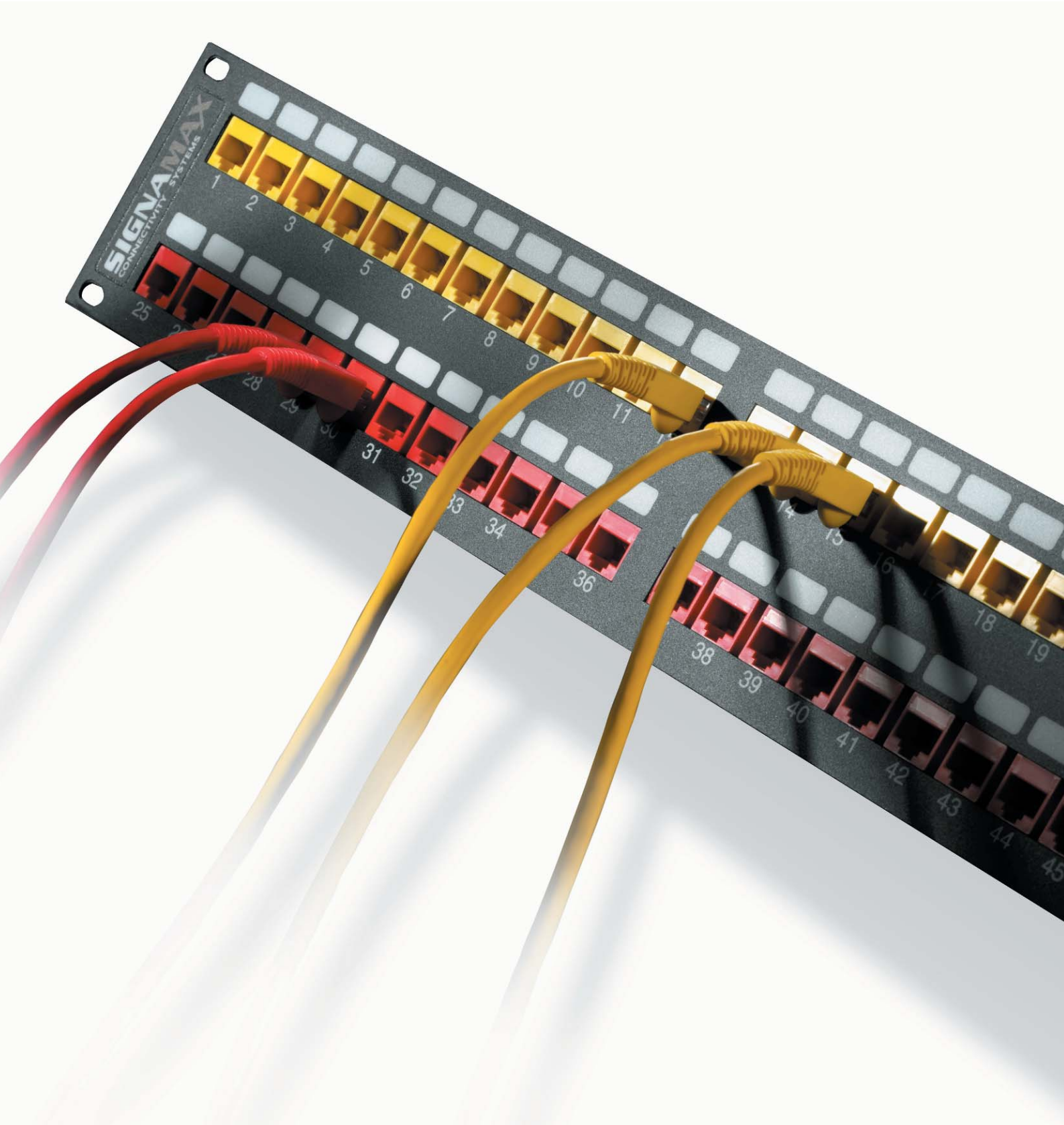
CMK-SC

CMK-BL

Keystone Multimedia Modules

PART NO.	DESCRIPTION
CMK-BL	Blank Keystone Module
CMK-ST	ST MM Fiber Connector Module
CMK-SC	SC MM Fiber Connector Module

NETWORK CONNECTIVITY SYSTEMS



SIGNAMAX™
CONNECTIVITY SYSTEMS

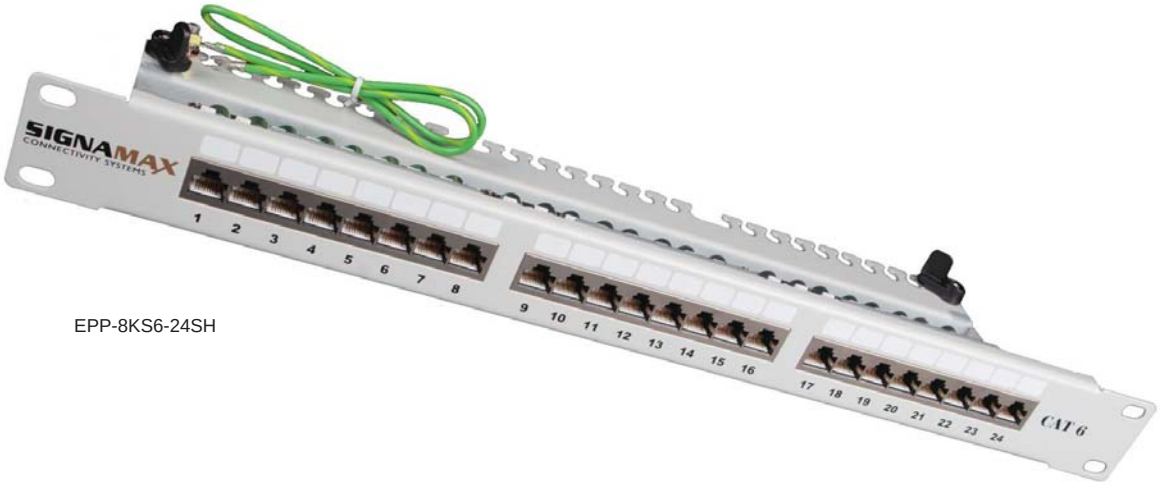
Patch Panels

- Category 6 Shielded Patch Panels
- Category 6 Unshielded Patch Panels
- Category 5e Shielded Patch Panels
- Category 5e Unshielded Patch Panels
- ISDN Patch Panels

Category 6 Shielded Patch Panels

Signamax shielded Category 6 patch panel is designed to be used with other Category 6 components as part of complete high-performance solution. The panel meets all electrical parameters specified in the TIA/EIA 568-B.2-1, ISO/IEC 11801:2002 and EN 50173-1 standards. It supports both T568A and T568B wiring configurations using an easy to read color-coded wiring label. Each port of the Signamax Category 6 panel is sequentially numbered for easy administration. The panel is equipped with finger-screw strain reliefs to secure the cables and to ensure proper connection between the shield of the cable and the panel. The Signamax shielded Category 6 patch panel is equipped with LSA+/Krone IDC termination block.

EPP-8KS6-24SH



EPP-8KS6-24SH

Category 6 Shielded Patch Panels

PART NO	DESCRIPTION	RACK SPACE
EPP-8KS6-24SH	24-Port Category 6 Shielded Patch Panel	1U

Each panel is supplied with a set of installation screws, earthing set and plastic ties for cable fixing. Cable organizer, base frames, blind panels and other accessories are available on special request.
Panel is supplied in grey colour (RAL 7035).

Category 6 Unshielded Patch Panels

Signamax Category 6 unshielded patch panels are designed to exceed TIA/EIA-568-B.2-1, ISO/IEC 11801:2002 and EN 50173-1 performance specifications providing usable bandwidth beyond 250 MHz. These high-density panels are available in 12- through 48-port versions and feature enhanced front and rear labeling for easy circuit identification. Signamax Category 6 unshielded panels support both T568A and T568B wiring configurations using an easy to read color-coded wiring label. These panels are constructed for maximum durability and feature a fully enclosed, 8-port modular design, which provides flexibility and protection of printed circuitry during termination. A newly designed RJ45 contact configuration provides enhanced plug to jack connection integrity for superior reliability. Rear termination is made quick and easy using a 4-pair inline 110 type connector compatible with industry standard 110 termination tool. The panels include an integrated cable management feature for routing and strain relief requirements.

24458MD-C6C

Tested up to 350 MHz

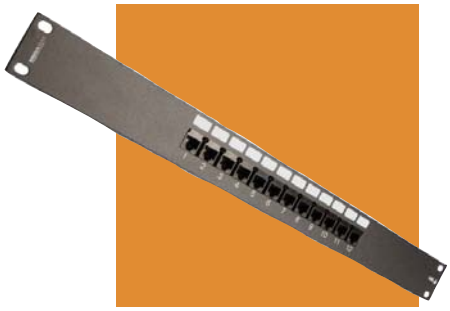
48458MD-C6C

Category 6 Unshielded Patch Panels

PART NO	DESCRIPTION	RACK SPACE
12458MD-C6C	12-Port Category 6 Patch Panel, Universal Wiring T568A/B	1U
24458MD-C6C	24-Port Category 6 Patch Panel, Universal Wiring T568A/B	1U
48458MD-C6C	48-Port Category 6 Patch Panel, Universal Wiring T568A/B	2U

Standard jack colour is black. Other colour jacks are available.

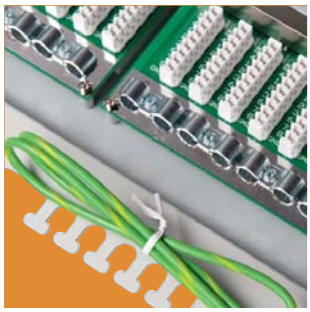
48458MD-C6C



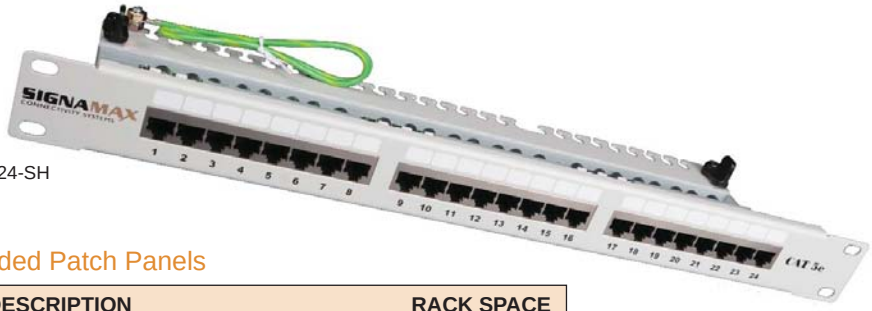
12458MD-C6C

Category 5e Shielded Patch Panels

Signamax Category 5e shielded patch panel is designed to exceed TIA/EIA-568-B.2, ISO/IEC 11801:2002 and EN 50173-1 performance specifications providing usable bandwidth beyond 155 MHz. This panel is available in 24-port version and features enhanced front and rear labeling for easy circuit identification. The panel supports both T568A and T568B wiring configurations using an easy to read color-coded wiring label. It is constructed for maximum durability and features a fully enclosed, 8-port modular design, which provides flexibility and protection of printed circuitry during termination. The Signamax shielded Category 5e panel includes an integrated cable management feature for cable routing and strain relief requirements.



EPP-8KS5-24-SH



EPP-8KS5-24-SH

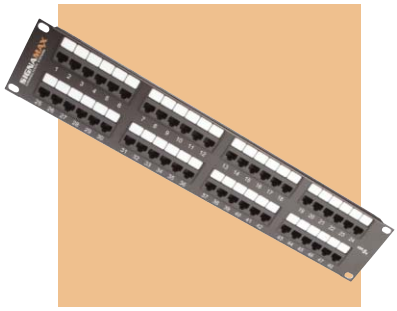
Category 5e Shielded Patch Panels

PART NO	DESCRIPTION	RACK SPACE
EPP-8KS5-24SH	24-Port Category 5e Shielded Patch Panel	1U

Each panel has Back Krone IDC block and is supplied with the grounding set and plastic ties for cable attachment. Panel is supplied in grey colour (RAL 7035).

Category 5e Unshielded Patch Panels

Signamax Category 5e unshielded patch panels have been engineered for high-performance, high-density, and ease of installation. These panels exceed both component and channel performance as specified in TIA/EIA-568-B.2, ISO 11801:2002 and EN 50173-1, and include new features for port labeling, colour-coding and cable management. These Signamax Category 5e panels are designed for maximum strength, which allows for termination with a standard multi-pair 110 impact tool to reduce installation time. The panels feature a fully enclosed design for protectionof printed circuitry during termination. The Signamax Category 5e unshielded panels include an integrated cable management feature for routing and strain relief requirements.



48458MD-C5E

24458MD-C5E

12458MD-C5E

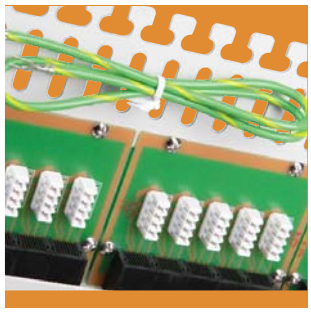
Category 5e Unshielded Patch Panels

PART NO	DESCRIPTION	RACK SPACE
12458MD-C5E	12-Port Category 5e Patch Panel, Universal Wiring T568A/B	1U
24458MD-C5E	24-Port Category 5e Patch Panel, Universal Wiring T568A/B	1U
48458MD-C5E	48-Port Category 5e Patch Panel, Universal Wiring T568A/B	2U

Standard jack colour is black. Other colour jacks are available.

ISDN Patch Panels

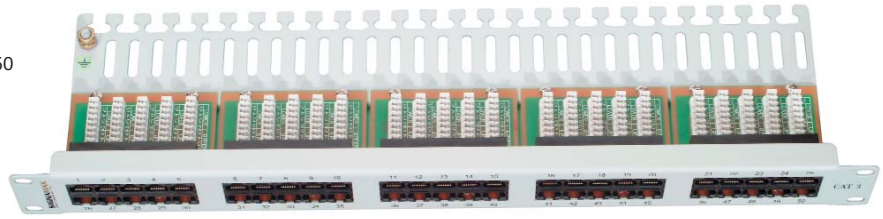
Signamax ISDN Category 3 patch panel is a high-density telecommunication panel with 25 and 50 standard RJ45 jacks. The panel meets all latest standards and electrical parameters and is designed for termination of two pair cable in Krone termination blocks. Printed circuit board together with high quality components ensures the Category 3 performance. Integrated back cable management for separate cables provides organized and secure installation. All ports are numbered. The panel is available in 1U height.



ISDN25

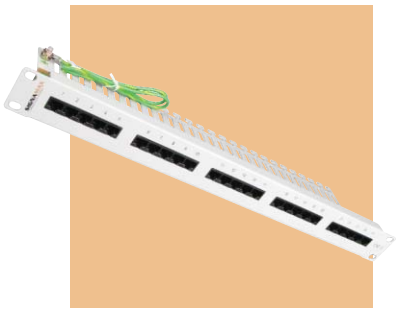
ISDN25

ISDN50



Category 5e Shielded Patch Panels

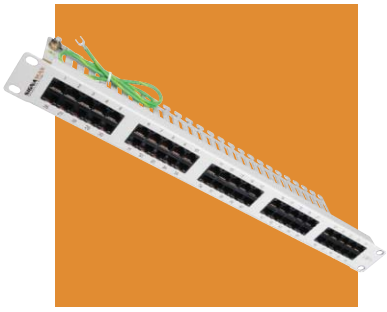
PART NO	DESCRIPTION	RACK SPACE
ISDN25	25-Port Category 3 ISDN Patch Panel	1U
ISDN50	50-Port Category 3 ISDN Patch Panel	1U



ISDN25

SPECIFICATIONS
25-port Category 3 ISDN patch panel
Front connector
RJ45, 8P8C, connected pins 3-6
Plated by 30 micro inches of gold over nickel
Jacks grouped into blocks by 5 pieces, single layer
Terminal block
4 position Krone block, 4P4C, all connected

DIMENSIONS (H x W x D)
43.8 mm x 464.7 mm x 130.5 mm

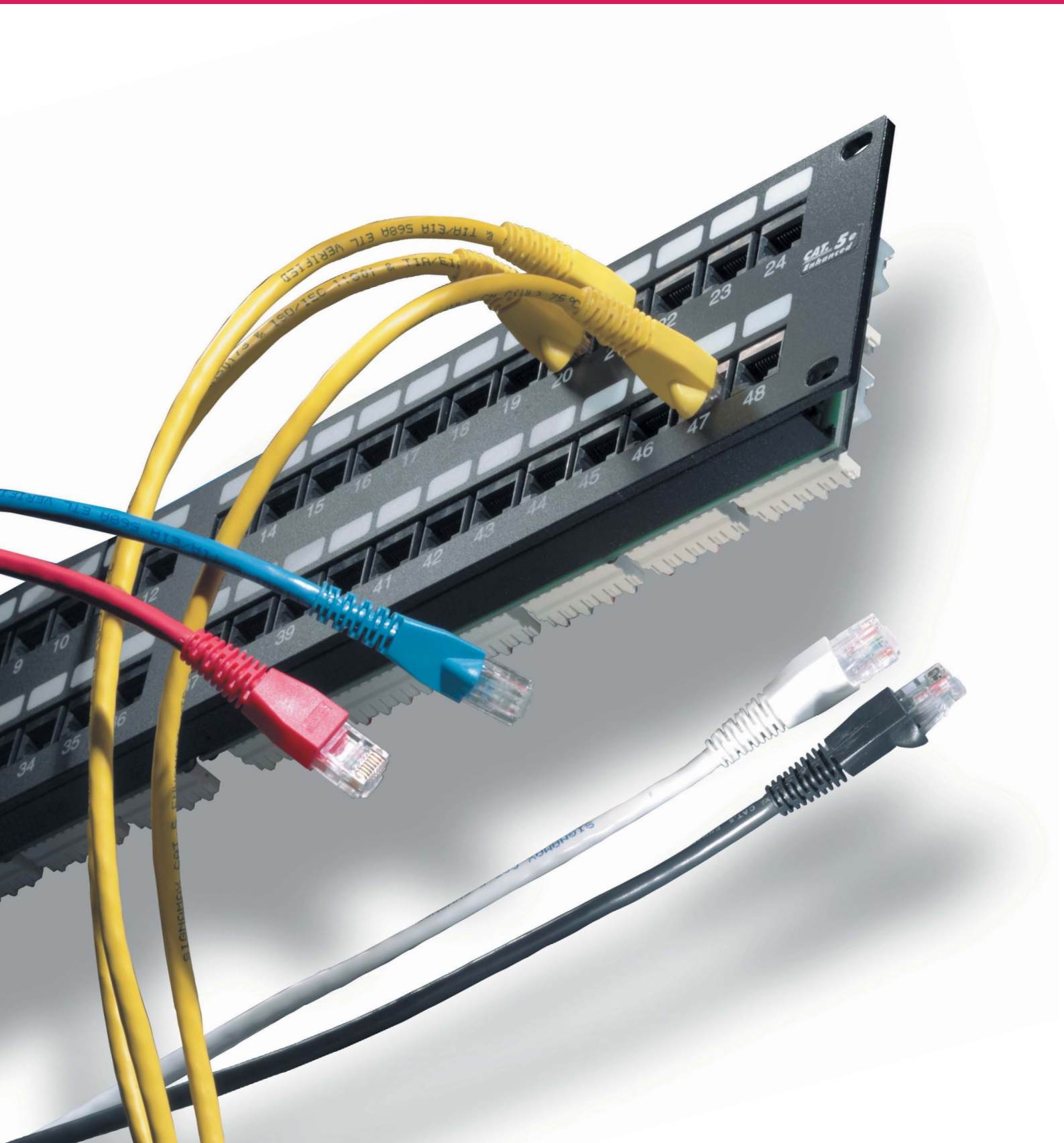


ISDN50

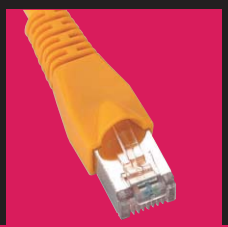
SPECIFICATIONS
50-port Category 3 ISDN patch panel
Front connector
RJ45, 8P8C,connected pins 3-6
Plated by 30 micro inches of gold over nickel
Jacks grouped into blocks by 5 pieces, double layer
Terminal block
8 position Krone block, 8P8C, all connected

DIMENSIONS (H x W x D)
43.8 mm x 464.7 mm x 130.5 mm

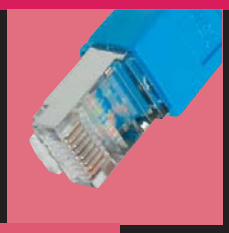
NETWORK CONNECTIVITY SYSTEMS



SIGNAMAX™
CONNECTIVITY SYSTEMS



Patch Cords/Testers



J

S-FTP Category 6 Patch Cords

S-FTP Category 5e Patch Cords

UTP Category 6 Patch Cords

UTP Category 5e Patch Cords

T-Adapters and Testers

Inline Couplers and Connection Boxes

S-FTP Category 6 Patch Cords

Signamax shielded Category 6 patch cables with high quality Category 6 connector are assembled using 26 AWG individually shielded pairs patch cable. The high quality Category 6 plugs are plated by gold over nickel on polished bronze for up to 2,500 plug cycles. Protection provided by rubber boots prevents pair-to-pair disturbance inside the body of the connector and increases performance of the patch cable.

C6-315RD

C6-315GY

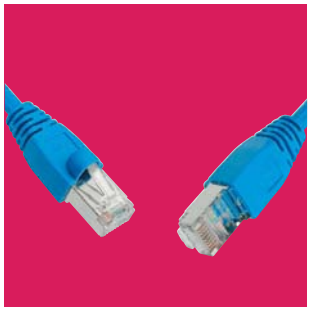
S-FTP Category 6 Patch Cords

LENGTH	GREY	GREEN	BLUE	RED	YELLOW
0.5 m	C6-315GY-0.5 MB	C6-315GR-0.5 MB	C6-315BU-0.5MB	C6-315RD-0.5 MB	C6-315YE-0.5 MB
1 m	C6-315GY-1 MB	C6-315GR-1 MB	C6-315BU-1MB	C6-315RD-1 MB	C6-315YE-1 MB
2 m	C6-315GY-2 MB	C6-315GR-2 MB	C6-315BU-2MB	C6-315RD-2 MB	C6-315YE-2 MB
3 m	C6-315GY-3 MB	C6-315GR-3 MB	C6-315BU-3MB	C6-315RD-3 MB	C6-315YE-3 MB
5 m	C6-315GY-5 MB	C6-315GR-5 MB	C6-315BU-5MB	C6-315RD-5 MB	C6-315YE-5 MB
7 m	C6-315GY-7 MB	C6-315GR-7 MB	C6-315BU-7MB	C6-315RD-7 MB	C6-315YE-7 MB
10 m	C6-315GY-10 MB	C6-315GR-10 MB	C6-315BU-10MB	C6-315RD-10 MB	C6-315YE-10 MB

Other lengths, colours or halogen free cables on request.

S-FTP Category 5e Patch Cords

Signamax shielded Category 5 Enhanced patch cables are assembled using high quality 26 AWG double shielded patch cable. Protection provided by molded boots prevents pair-to-pair disturbance inside the body of the connector and increases performance of the patch cable.



C5E-315BU

C5E-315GY

S-FTP Category 5e Patch Cords

LENGTH	GREY	GREEN	BLUE	RED	YELLOW
0.5 m	C5E-315GY-0.5 MB	C5E-315GR-0.5 MB	C5E-315BU-0.5 MB	C5E-315RD-0.5 MB	C5E-315YE-0.5 MB
1 m	C5E-315GY-1 MB	C5E-315GR-1 MB	C5E-315BU-1 MB	C5E-315RD-1 MB	C5E-315YE-1 MB
2 m	C5E-315GY-2 MB	C5E-315GR-2 MB	C5E-315BU-2 MB	C5E-315RD-2 MB	C5E-315YE-2 MB
3 m	C5E-315GY-3 MB	C5E-315GR-3 MB	C5E-315BU-3 MB	C5E-315RD-3 MB	C5E-315YE-3 MB
5 m	C5E-315GY-5 MB	C5E-315GR-5 MB	C5E-315BU-5 MB	C5E-315RD-5 MB	C5E-315YE-5 MB
7 m	C5E-315GY-7 MB	C5E-315GR-7 MB	C5E-315BU-7 MB	C5E-315RD-7 MB	C5E-315YE-7 MB
10 m	C5E-315GY-10 MB	C5E-315GR-10 MB	C5E-315BU-10 MB	C5E-315RD-10 MB	C5E-315YE-10 MB
15 m	C5E-315GY-15 MB	C5E-315GR-15 MB	C5E-315BU-15 MB	C5E-315RD-15 MB	C5E-315YE-15 MB
20 m	C5E-315GY-20 MB	C5E-315GR-20 MB	C5E-315BU-20 MB	C5E-315RD-20 MB	C5E-315YE-20 MB

Other lengths, colours or halogen free cables on request.

UTP Category 6 Patch Cords

Signamax continues to set the standard for high-quality, high-performance patch cords. These Category 6 cables are manufactured to the strictest performance requirements as specified in TIA/EIA-568-B.2-1, ISO 11801:2002 and EN 50173-1 using the highest-level connector design and cable construction. Signamax category 6 patch cords incorporate slim-profile snag-free boots, which protect the plug latch, and a flexible, but durable cable strain relief. All patch cords use a special new connector design that assures maximum pair twist for unparalleled transmission performance and signal integrity. All cords are 100% tested.

C6-114GR

C6-114GY

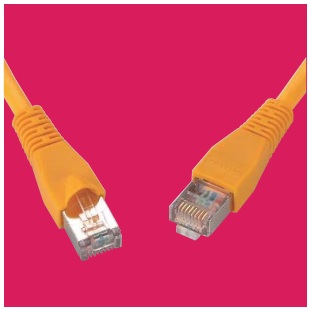
UTP Category 6 Patch Cords

LENGTH	GREY	GREEN	BLUE	RED	YELLOW
0.5 m	C6-114GY-0.5 MB	C6-114GR-0.5 MB	C6-114BU-0.5 MB	C6-114RD-0.5 MB	C6-114YE-0.5 MB
1 m	C6-114GY-1 MB	C6-114GR-1 MB	C6-114BU-1 MB	C6-114RD-1 MB	C6-114YE-1 MB
2 m	C6-114GY-2 MB	C6-114GR-2 MB	C6-114BU-2 MB	C6-114RD-2 MB	C6-114YE-2 MB
3 m	C6-114GY-3 MB	C6-114GR-3 MB	C6-114BU-3 MB	C6-114RD-3 MB	C6-114YE-3 MB
5 m	C6-114GY-5 MB	C6-114GR-5 MB	C6-114BU-5 MB	C6-114RD-5 MB	C6-114YE-5 MB
7 m	C6-114GY-7 MB	C6-114GR-7 MB	C6-114BU-7 MB	C6-114RD-7 MB	C6-114YE-7 MB
10 m	C6-114GY-10 MB	C6-114GR-10 MB	C6-114BU-10 MB	C6-114RD-10 MB	C6-114YE-10 MB

Other lengths, colours or halogen free cables on request.

UTP Category 5e Patch Cords

Signamax unshielded Category 5 Enhanced patch cables with high quality connector are assembled using high quality 26 AWG patch cable. High quality plugs are plated by gold over nickel on polished bronze for up to 2,500 plug cycles. Protection provided by molded boots prevents pair-to-pair disturbance inside the body of the connector and increases performance of the patch cable.



C5E-114YE

C5E-114GY

UTP Category 5e Patch Cords

LENGTH	GREY	GREEN	BLUE	RED	YELLOW
0.5 m	C5E-114GY-0.5 MB	C5E-114GR-0.5 MB	C5E-114BU-0.5 MB	C5E-114RD-0.5 MB	C5E-114YE-0.5 MB
1 m	C5E-114GY-1 MB	C5E-114GR-1 MB	C5E-114BU-1 MB	C5E-114RD-1 MB	C5E-114YE-1 MB
2 m	C5E-114GY-2 MB	C5E-114GR-2 MB	C5E-114BU-2 MB	C5E-114RD-2 MB	C5E-114YE-2 MB
3 m	C5E-114GY-3 MB	C5E-114GR-3 MB	C5E-114BU-3 MB	C5E-114RD-3 MB	C5E-114YE-3 MB
5 m	C5E-114GY-5 MB	C5E-114GR-5 MB	C5E-114BU-5 MB	C5E-114RD-5 MB	C5E-114YE-5 MB
7 m	C5E-114GY-7 MB	C5E-114GR-7 MB	C5E-114BU-7 MB	C5E-114RD-7 MB	C5E-114YE-7 MB
10 m	C5E-114GY-10 MB	C5E-114GR-10 MB	C5E-114BU-10 MB	C5E-114RD-10 MB	C5E-114YE-10 MB
15 m	C5E-114GY-15 MB	C5E-114GR-15 MB	C5E-114BU-15 MB	C5E-114RD-15 MB	C5E-114YE-15 MB
20 m	C5E-114GY-20 MB	C5E-114GR-20 MB	C5E-114BU-20 MB	C5E-114RD-20 MB	C5E-114YE-20 MB

Other lengths, colours or halogen free cables on request.

T-Adapters and Testers

When installing a cabling system, checking for open or short circuits is always a requirement. Signamax remote cable testers answer the need for testing T568A, T568B, 10BaseT, 10Base2, 10Base5 and Token Ring systems, for UTP and STP cabling.

E079X

Remote Cable Tester with USB Port

PART NO	DESCRIPTION
E097X	Remote Cable Tester with USB Port

TA-V1

T-Adapters

PART NO	DESCRIPTION
TA-V1	T-Adapter for splitting 4-pair Outlet to one 10Base-T and one Telephone Outlet
TA-V2	T-Adapter for splitting 4-pair Outlet to two 10Base-T Outlets
TA-V3	T-Adapter for splitting 4-pair Outlet to two Telephone Outlets

T-Adapters must be used in pairs.

Inline Couplers and Connection Boxes

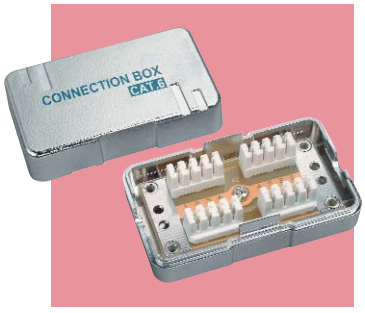
Inline couplers and connection boxes allow a simple operation with installation cables, which can be easily extended. Broken cables can be coupled with no need to install new complete cable segment. Connection boxes can be used for all standard 4- to 8-wire installation cables of 26-22 AWG up to 10 mm outer diameter.

KRJ45-S

KRJ45-VEBB

Inline Couplers and Connection Boxes

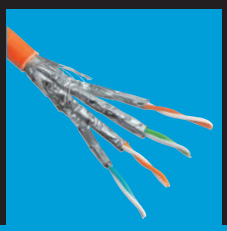
PART NO	DESCRIPTION
KRJ45-S	Inline Coupler E-TA 8/8 unshielded RJ45 UTP
KRJ45-VEBB	Inline Coupler E-TA 8/8 shielded RJ45 STP
KRJ45-VEB6	Connection Box LSA+ up to 600 MHz, Cat6, unshielded
KRJS45-VEB6	Connection Box LSA+ up to 600 MHz, Cat6, shielded
KRJ45-VEB5	Connection Box LSA+, Cat5e, unshielded
KRJS45-VEB5	Connection Box LSA+, Cat5e, shielded



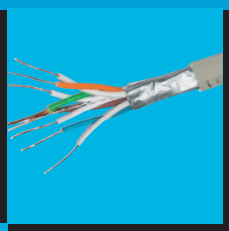
KRJ45-VEB6

NETWORK CONNECTIVITY SYSTEMS

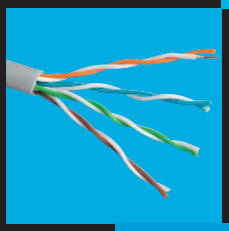
SIGNAMAX™
CONNECTIVITY SYSTEMS

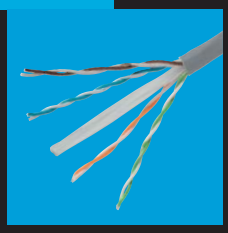


Installation Cable



10GBaseT compatible





K

- S-STP Category 7 Installation Cable
- FTP Category 6/6a Installation Cable
- UTP Category 6 Installation Cable
- UTP Category 5e Installation Cable

S-STP Category 7 Installation Cable

Signamax Category 7 shielded installation cable complies with the most stringent parameters with significant headroom for installation safety. Selected design goes hand-in-hand with the best quality which, with strictly controlled production, guarantees the highest performance. The shielded Category 7 installation cable is produced in S-STP configuration (PimF—Pair in metal foil) and is tested up to 900 MHz. Its excellent performance ensures full compatibility with all new high-speed data protocols, such as 10GBaseT. Foamed PE insulated conductors in the cable have the pairs shielded by aluminum foil (each pair separately) and copper braid (all four pairs). Sheath material is supported by fire retardant halogen free compound. Signamax Category 7 shielded installation cable complies with the latest standards as specified in EN 50173-1 and ISO/IEC 11801:2002.

Construction, Mechanical and Electrical Properties

Bending radius	
Minimum bending radius, installation	8 x D
Minimum bend radius, installed	4 x D

Tensile strength	
Maximum tensile load, installation	100 N
Maximum tension load, installed	No stretch

Temperature limits	
Installation	0° to +50°C
Operation	-20° to +60°C

Fire classification	
LSOH	IEC 60332-1

Heat release	
LS0H	500 MJ/km

Insulation resistance	> 5,000 MΩ/km
Resistance unbalance, maximum	2%
NVP	79%
Delay skew	20 ns/100 m
Diameter of copper conductor	AWG 23
Outer diameter	7.0 mm
Weight	65 kg/km

Transfer impedance, nominal IEC96-1	
1 MHz	1.1 MΩ/m
10 MHz	1.0 MΩ/m

Transmission characteristics acc. to Category 7 (at 20°C)

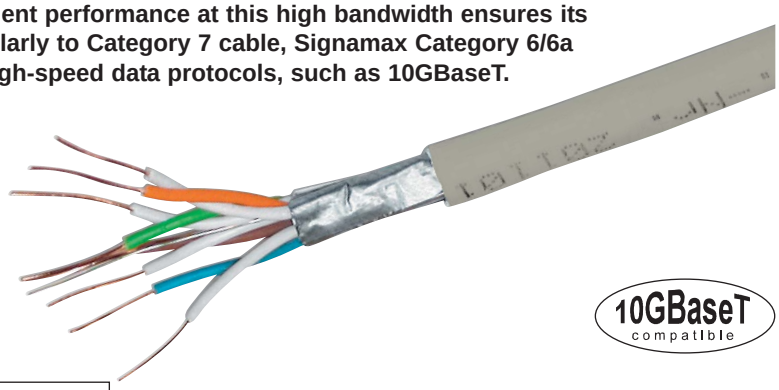
Frequency (MHz)	Attenuation, nom. (dB/100 m)	NEXT (dB)	ACR (dB)
1.00	1.9	118	116
10.00	5.8	105	99
16.00	7.1	100	93
20.00	8.0	99	91
31.25	10.0	98	88
62.50	14.7	94	79
100.00	18.5	90	71
300.00	29.0	83	54
600.00	48.7	77	28
750.00	54.0	75	21
900.00	57.0	74	17

S-STP Category 7 Installation Cable

PART NO.	DESCRIPTION
BC7-4DS-HF	Category 7 S-STP Installation Cable, 500 m reels, LSOH

FTP Category 6/6a Installation Cable

Signamax Category 6/6a FTP installation cable is manufactured to the highest quality standards and easily exceeds all applicable performance specifications for Category 6 as defined in TIA/EIA-568-B.2-1, ISO/IEC 11801:2002 and EN 50173-1. Moreover, this Signamax installation cable is tested up to 500 MHz and its excellent performance at this high bandwidth ensures its compliance with the new Category 6a. Similarly to Category 7 cable, Signamax Category 6/6a shielded installation cable is suitable for high-speed data protocols, such as 10GBaseT.



10GBaseT compatible

Construction

Conductor	bare copper wire Ø 0.56 mm (AWG 23)
Insulation	Foamskin Polyethylene, Ø 1.35 mm
Twisting	2 cores to the pair
Pair screen	High Performance STP: Al-laminated plastic foil, patented wrapping of two pairs each, drain wire AWG26 tinned
Sheath	FRNC

Mechanical Properties

Bending radius	≥ 35 mm without load ≥ 70 mm with load
Temperature range, during operation	-20° up to +60°C
during installation	0° up to +50°C

Electrical Properties (at 20°C ± 5°C)

DC loop resistance	≤ 176 Ω /km
Resistance unbalance	≤ 2%
Insulation resistance (500 V)	≥ 2,000 MΩ *km
Capacitance at 800 Hz	nom. 43 nF/km
Capacitance unbalance (pair to ground)	≤ 1,500 pF/km
Characteristic impedance (1-100 MHz) (1-100 MHz)	(100 ± 15) Ω (100 ± 18) Ω
Nominal velocity of propagation	approx. 79%
Propagation delay	≤ 427 ns/100 m
Delay skew	≤ 12 ns/100 m
Test voltage (DC, 1 min) Core/Core and Core/Screen	 1,000 V
Transfer impedance	at 1 MHz ≤ 50 mΩ/m at 10 MHz ≤ 100 mΩ/m at 30 MHz ≤ 200 mΩ/m

Transmission characteristics acc. to Category 6/6a (at 20°C)

f (MHz)	Attenuation (dB/100 m)	NEXT (dB)	ACR (dB/100 m)	Return loss (dB)
1	1.8	100	98	–
4	3.4	100	97	27
10	5.4	100	95	30
16	6.8	100	93	30
20	7.7	100	92	30
31.2	9.6	100	90	30
62.5	13.7	100	86	30
100	17.4	100	83	30
125	19.5	95	75	26
155.5	21.9	94	72	26
175	23.3	93	70	25
200	25.0	92	67	25
250	28.1	90	62	24
300	30.9	89	58	24
400	38.3	87	48	23
450	44.8	85	40	22
500	44,8	85	40	22

Technical Data

Product code	Outer diameter mm	Fire load MJ/km	Fire load kWh/m	Weight kg/km	Copper content kg/km	Tensile force N
BC6/6a-4S-HF	6.5	501	0.139	44	24	100

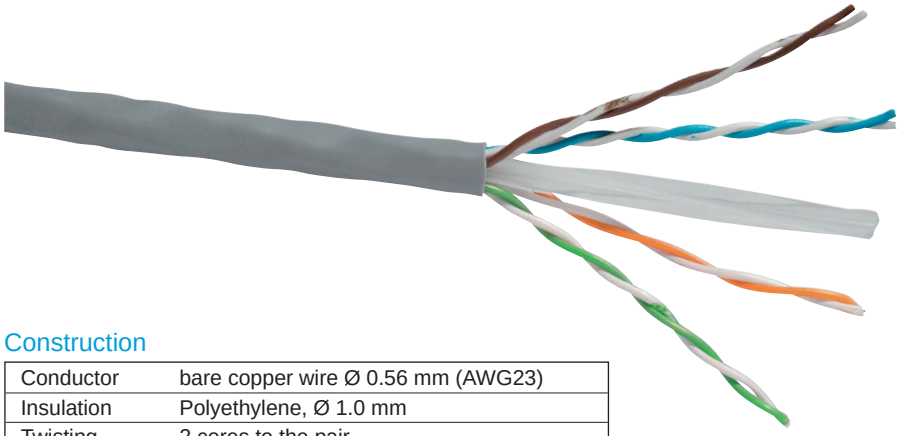
FTP Category 6/6a Installation Cable

PART NO.	DESCRIPTION
BC6/6a-4S-HF	Category 6/6a FTP Installation Cable, 500 m reels, LSOH

Cat 5e FTP cable available on request.
PVC cables available on request.

UTP Category 6 Installation Cable

Signamax Category 6 unshielded installation cable is designed to provide the highest level of transmission performance to meet the needs of today's most advanced voice and data networks. Category 6 cables support 10Base-T through 1000Base-T/TX protocols for data rates up to 1 Gb/s and exceed the requirements of TIA/EIA-568-B.2-1, ISO 11801:2002 and EN 50173-1 standards. The Signamax Category 6 cable conductor is AWG 23 bare copper wire with high density polyethylene insulation. The non-metallic cross separator inside the cable ensures the best crosstalk elimination between individual pairs.



Construction

Conductor	bare copper wire Ø 0.56 mm (AWG23)
Insulation	Polyethylene, Ø 1.0 mm
Twisting	2 cores to the pair
Sheath	non metallic cross separator (spline) PVC, grey RAL 7032

Mechanical Properties

Bending radius	≥ 20 mm without load ≥ 40 mm with load
Temperature range, during operation	-20° up to +60°C
during installation	0° up to +50°C

Electrical Properties (at 20°C ± 5°C)

DC loop resistance	≤ 176 Ω/km
Resistance unbalance	≤ 2%
Insulation resistance (500 V)	≥ 5,000 MΩ *km
Capacitance at 800 Hz	nom. 48 nF/km
Capacitance unbalance (pair to ground)	≤ 1,500 pF/km
Characteristic impedance (1-100 MHz)	(100 ± 15) Ω
Characteristic impedance (1-100 MHz) (1-100 MHz)	(100 ± 15) Ω (100 ± 22) Ω
Nominal velocity of propagation	approx. 67%
Propagation delay	≤ 535 ns/100 m
Delay skew	≤ 20 ns/100 m
Test voltage (DC, 1 min) Core/Core and Core/Screen	 1,000 V

Transmission characteristics acc. to Category 6 (at 20°C)

f	Attenuation		NEXT		ACR		Return loss
(MHz)	(dB/100 m)		(dB)		(dB/100 m)		(dB)
	max.	nom.	min.	nom.	min.	nom.	min.
1	2	2	74	90	71.8	88	23
4	3.8	3.8	65	89	61.2	85.2	23
10	6	6	59	89	53	82.8	23
16	7.6	7.6	56	86	48.4	78.1	23
20	8.5	8.5	55	84	46.5	75.8	23
31.2	10.7	10.7	52	81	41.3	70.7	23
62.5	15.5	15.1	47	77	31.5	61.8	23
100	19.9	19.1	44	74	24.1	54.7	23
125	22.5	21.3	43	72	20.5	51	21
155.5	25.4	23.8	42	71	16.6	47.1	21
175	27.1	25.3	41	70	13.9	44.9	21
200	29.2	27	40	69	10.8	42.3	21
250	33	32.6	38	68	5	35.2	19
300		35.7		67		30.9	
400		41.2		65		23.6	
450		42		64		22	

Technical Data

Product code	Outer diameter	Fire load		Weight	Copper content	Tensile force
	mm	MJ/km	kWh/m	kg/km	kg/km	N
BC6-4	6.2	329	0.091	40	18	80

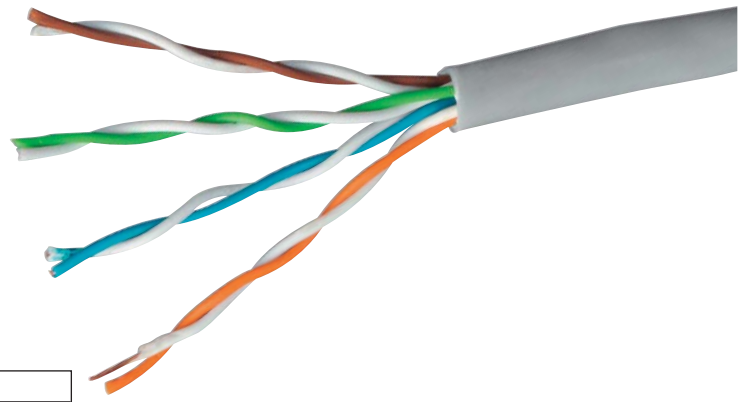
UTP Category 6 Installation Cable

PART NO.	DESCRIPTION
BC6-4	Category 6 UTP Installation Cable, 500 m reels, PVC

Halogen free cable available on request.

UTP Category 5e Installation Cable

The Category 5e unshielded installation cable is mostly used cable for data transmission where no electromagnetic disturbance is a problem. Supplied as part of complete Signamax Category 5e solution, the cable represents one of the key elements for safety and economical data transfer. Sophisticated cable design ensures very low electromagnetic emitency and low crosstalk.
All parameters exceed requirements specified by TIA/EIA 568-B.2-1, ISO/IEC 11801:2002, and EN 50173-1 standards. The Signamax Category 5e cables are suitable for the high-speed 1000BaseT Ethernet protocol. Sheath material is supported by fire retardant PVC and halogen free compound.



Construction

Conductor	bare copper wire Ø 0.51 mm (AWG 24)
Insulation	Polyethylene, Ø 0.95 mm
Twisting	2 cores to the pair
Overall screen	Al-laminated plastic foil, Drain wire AWG26 tinned
Sheath	PVC alt. FRNC, grey RAL 7032

Mechanical Properties

Bending radius	≥ 20 mm without load ≥ 40 mm with load
Temperature range, during operation	-20° up to +60°C
during installation	0° up to +50°C

Electrical Properties (at 20°C ± 5°C)

DC loop resistance	≤ 192 Ω /km
Resistance unbalance	≤ 2%
Insulation resistance (500 V)	≥ 2,000 MΩ *km
Capacitance at 800 Hz	nom. 48 nF/km
Capacitance unbalance (pair to ground)	≤ 1,500 pF/km
Characteristic impedance (1-100 MHz)	(100 ± 15) Ω
Nominal velocity of propagation	approx. 67%
Propagation delay	≤ 535 ns/100 m
Delay skew	≤ 20 ns/100 m
Test voltage (DC, 1 min) Core/Core and Core/Screen	 1,000 V

Transmission characteristics acc. to Category 5e (at 20°C)

f (MHz)	Attenuation (dB/100 m)		NEXT (dB)		ACR (dB/100 m)		Return loss (dB)
	max.	nom.	min.	nom.	min.	nom.	min.
1	2	1.9	65	71	63.3	69.1	23
4	3.9	3.7	56	62	52.4	58.3	23
10	6.3	6.0	50	56	44.0	50.0	23
16	8.0	7.6	47	53	39.3	45.3	23
20	9.0	8.5	46	51	36.8	43.0	23
31.2	11.4	10.7	43	49	31.5	37.9	23
62.5	16.5	15.7	38	44	21.9	28.4	23
100	21.3	19.8	35	41	14.0	21.2	23
125		22.3		40		17.2	
155.5		24.2		38		13.9	
175		25.7		37		11.6	
200		27.5		36		9.0	
250		29.2		35		5.8	
300		32.0		34		1.8	

Technical Data

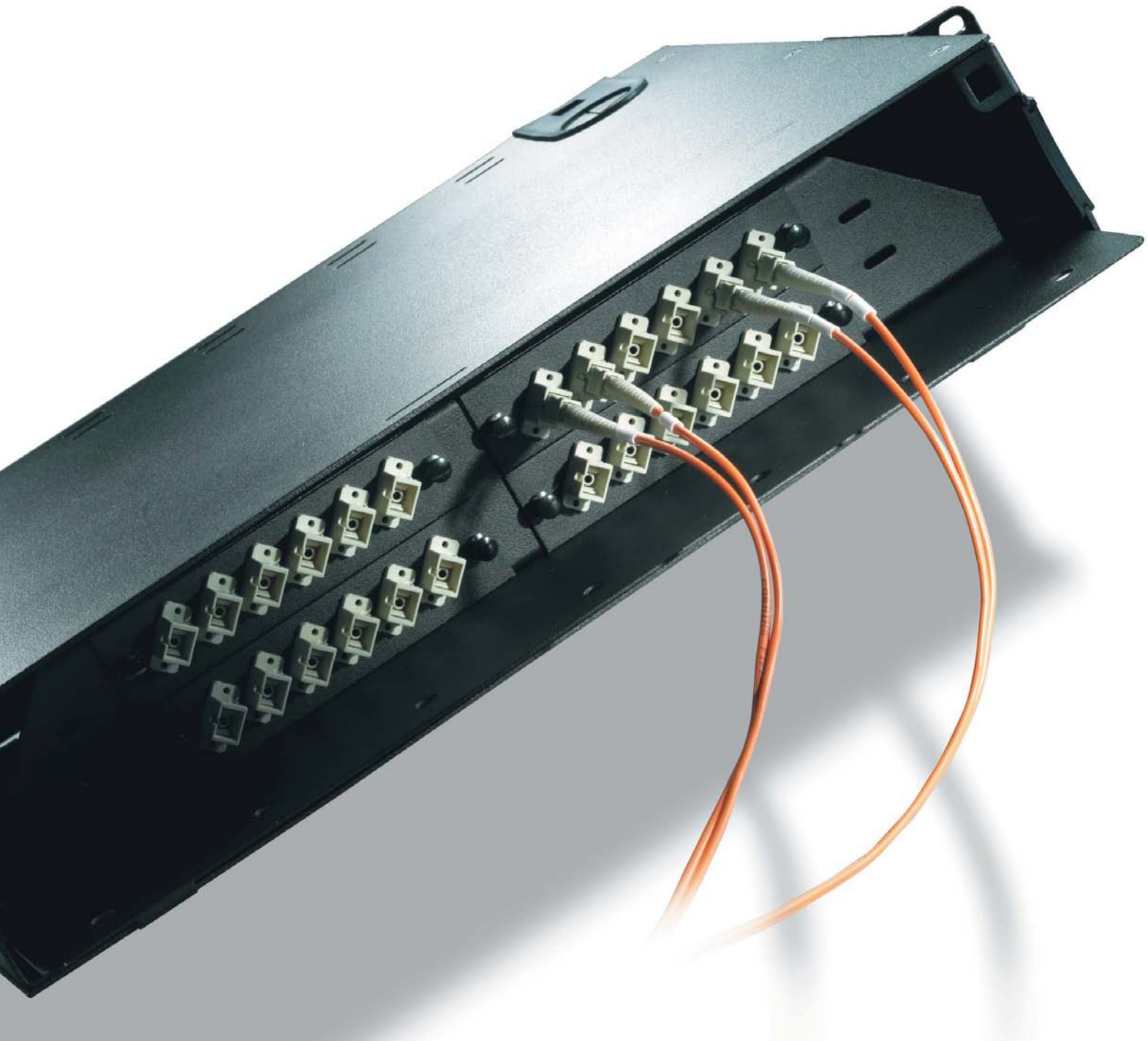
Product code	Outer diameter	Fire load		Weight	Copper content	Tensile force
	mm	MJ/km	kWh/m	kg/km	kg/km	N
BC5E-4	5.9	336	0.093	36	17.5	80

UTP Category 5e Installation Cable

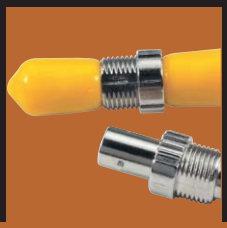
PART NO.	DESCRIPTION
BC5E-4	Category 5e UTP Installation Cable, 305 m boxes, PVC

Halogen free cable available on request.

NETWORK CONNECTIVITY SYSTEMS



SIGNAMAX™
CONNECTIVITY SYSTEMS

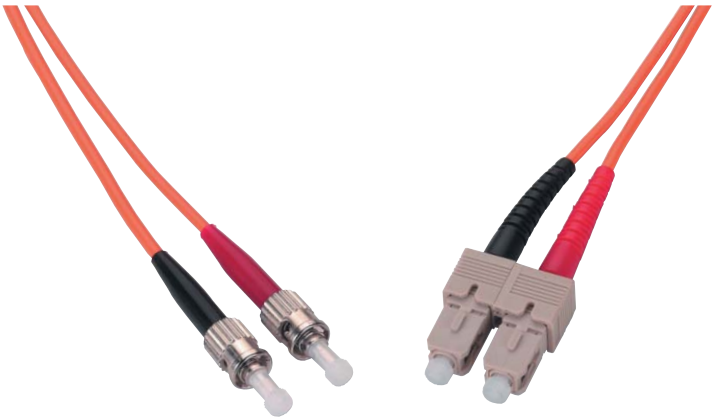


Fiber Optic Systems

- Fiber Optic Patch Cords
- Fiber Optic Adapters
- Fiber Optic Patch Panels
- Wall Mount Fiber Optic Box

Fiber Optic Patch Cords

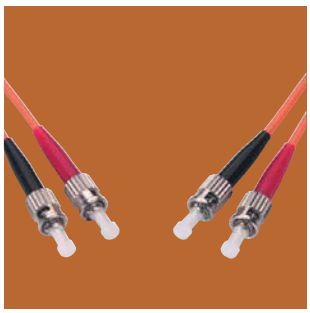
Fiber optic patch cords are suited for equipment jumper cable, cross connects, and work area connections. All patch cords are manufactured using OFNR riser grade cable and are 100% factory tested to ensure performance to TIA/EIA-568-B-2, ISO 11801:2002 and EN 50173-1 standards. ST/ST, SC/SC and hybrid ST/SC Patch Cords are available in both multimode (62.5/125 µm and 50/125 µm) and singlemode cable-types, in duplex and simplex versions.



ST Fiber Optic Patch Cords

PART NO.	DESCRIPTION
FC-2/2-LM	ST to ST Duplex Multimode Patch Cord, 62.5/125
FC50-2/2-LM	ST to ST Duplex Multimode Patch Cord, 50/125
FC9-2/2-LM	ST to ST Duplex Singlemode Patch Cord, 9/125

For length substitute L in P/N.
1=1 meter 2=2 meters 3=3 meters 5=5 meters
Other lengths and Simplex are available.

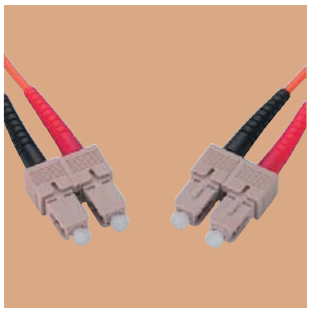


ST/ST Duplex

SC Fiber Optic Patch Cords

PART NO.	DESCRIPTION
FC-4/4-LM	SC to SC Duplex Multimode Patch Cord, 62.5/125
FC50-4/4-LM	SC to SC Duplex Multimode Patch Cord, 50/125
FC9-4/4-LM	SC to SC Duplex Singlemode Patch Cord, 9/125

For length substitute L in P/N.
1=1 meter 2=2 meters 3=3 meters 5=5 meters
Other lengths and Simplex are available.

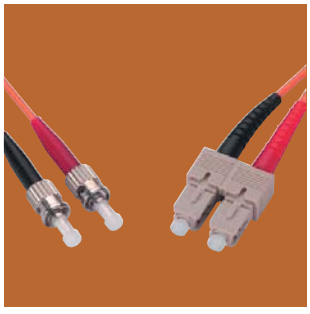


SC/SC Duplex

SC/ST Fiber Optic Patch Cords

PART NO.	DESCRIPTION
FC-4/2-LM	SC to ST Duplex Multimode Patch Cord, 62.5/125
FC50-4/2-LM	SC to ST Duplex Multimode Patch Cord, 50/125
FC9-4/2-LM	SC to ST Duplex Singlemode Patch Cord, 9/125

For length substitute L in P/N.
1=1 meter 2=2 meters 3=3 meters 5=5 meters
Other lengths and Simplex are available.
Other connectors on request.



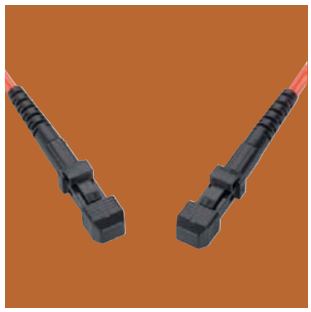
ST/SC Duplex

Fiber Optic Patch Cords

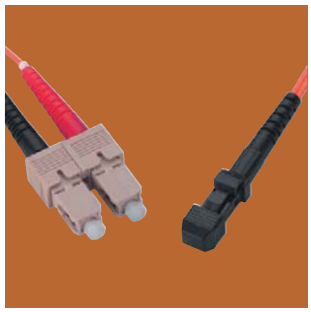
Signamax MTRJ and LC fiber optic patch cords suited for equipment jumper cable, cross connects, and work area connections. All patch cords are manufactured using OFNR riser grade cable and are 100% factory tested to ensure performance to TIA/EIA-568-B-3, ISO 11801:2002 and EN 50173-1 standards. MTRJ/MTRJ, LC/LC and hybrid MTRJ and LC to ST and SC multimode (62.5/125 µm and 50/125 µm) patch cords are available.

LC/LC Duplex

LC/ST (SC) Duplex


MTRJ Duplex

ST/MTRJ Duplex


SC/MTRJ Duplex

LC Fiber Optic Patch Cords

PART NO.	DESCRIPTION
FC-9/9-LM	LC to LC Duplex Multimode Patch Cord, 62.5/125
FC-9/2-LM	LC to ST Duplex Multimode Patch Cord, 62.5/125
FC-9/4-LM	LC to SC Duplex Multimode Patch Cord, 62.5/125
FC50-9/9-LM	LC to LC Duplex Multimode Patch Cord, 50/125
FC50-9/2-LM	LC to ST Duplex Multimode Patch Cord, 50/125
FC50-9/4-LM	LC to SC Duplex Multimode Patch Cord, 50/125

For length substitute L in P/N.
1=1 meter 2=2 meters 3=3 meters 5=5 meters
Other lengths are available.

MTRJ Fiber Optic Patch Cords

PART NO.	DESCRIPTION
FC-8/8-LM	MTRJ to MTRJ Duplex Multimode Patch Cord, 62.5/125
FC-8/2-LM	MTRJ to ST Duplex Multimode Patch Cord, 62.5/125
FC-8/4-LM	MTRJ to SC Duplex Multimode Patch Cord, 62.5/125
FC50-8/8-LM	MTRJ to MTRJ Duplex Multimode Patch Cord, 50/125
FC50-8/2-LM	MTRJ to ST Duplex Multimode Patch Cord, 50/125
FC50-8/4-LM	MTRJ to SC Duplex Multimode Patch Cord, 50/125

For length substitute L in P/N.
1=1 meter 2=2 meters 3=3 meters 5=5 meters
Other lengths are available.

Fiber Optic Adapters

SIGNAMAX Premise Connectivity System Fiber optic connectors are offered in wide range of types. All standard shapes are offered in both multimode and singlemode construction.

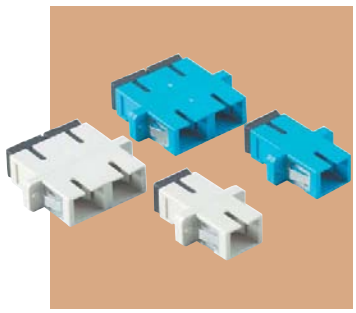
Signamax offers a wide variety of fiber optic adapters including ST, SC, LC and MTRJ. Our ST and SC adapters are available with a phosphor bronze sleeve for universal applications (MM/SM). All SC, LC and MTRJ adapters are provided with retaining clips for easy, snap-in mounting.

FA-ST

ST Fiber Connectors and Adapters

PART NO.	DESCRIPTION
FC-ST-MM	ST MM Connector, Zirconia sleeve, crimping, 3.0 mm
FC-ST-SM	ST SM Connector, Zirconia sleeve, crimping, 3.0 mm
FA-ST02	ST MM/SM Adapter w/Phosphor Bronze Sleeve

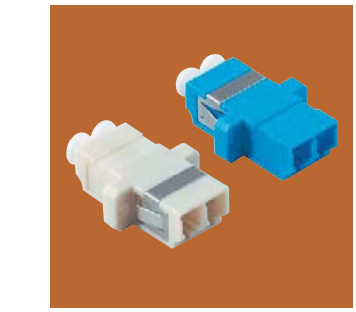
Singlemode Adapter available on request.


FA-SC

SC Fiber Connectors and Adapters

PART NO.	DESCRIPTION
FC-SC-MM	SC MM Connector, Phosphor bronze sleeve, crimping, 3.0 mm, Simplex
FC-SC-SM	SC SM Connector, Zirconia sleeve, crimping, 3.0 mm, Simplex
FA-SCD02-B	SC Duplex MM Adapter, Phosphor Bronze Sleeve, Beige
FA-SCD03-BU	SC Duplex SM Adapter, Zirconia Ceramic Sleeve, Blue

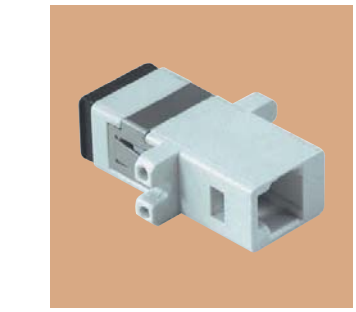
SM and Simplex Adapters available on request.


FA-LC

LC Fiber Connectors and Adapters

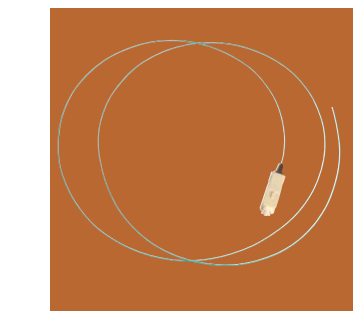
PART NO.	DESCRIPTION
FC-LC-MM	LC MM Connector, Phosphor bronze sleeve, crimping, 3.0 mm, Simplex
FC-LC-SM	LC MM Connector, Zirconia sleeve, crimping, 3,0mm, Simplex
FA-LCD02-B	LC Duplex MM Adapter w/Phosphor Bronze Sleeve
FA-LCD03-B	LC Duplex SM Adapter, Zirconia Sleeve

SM available on request.


FA-MTRJ

MTRJ Fiber Connectors and Adapters

PART NO.	DESCRIPTION
FC-MTM-MM	MTRJ MM Connector, Phosphor bronze sleeve, crimping, 3.0 mm, Male
FC-MTF-MM	MTRJ MM Connector, Phosphor bronze sleeve, crimping, 3.0 mm, Female
FC-MTM-SM	MTRJ MM Connector, Zirconia sleeve, crimping, 3.0 mm, Male
FC-MTF-SM	MTRJ MM Connector, Zirconia sleeve, crimping, 3.0 mm, Female
FA-MTRJ-B	MTRJ MM/SM Adapter


Pigtail SC

Fiber Optic Pigtails

PART NO.	DESCRIPTION
FC50-PI-ST-2m	Pigtail 2m ST 50/125 µm
FC50-PI-SC-2m	Pigtail 2m SC 50/125 µm
FC50-PI-LC-2m	Pigtail 2m LC 50/125 µm
FC-PI-ST-2m	Pigtail 2m ST 62.5/125 µm
FC-PI-SC-2m	Pigtail 2m SC 62.5/125 µm
FC-PI-LC-2m	Pigtail 2m LC 62.5/125 µm

Other lenghts and accessories (splice tray, fusion protector) available on request.

Fiber Optic Patch Panels

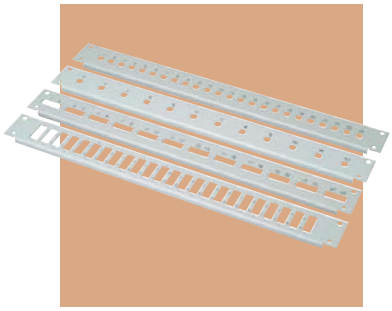
Signamax 19" Rack mountable fiber optic patch panel is designed for direct fiber optic cables termination. Standard size is 1U. The patch panel is modular and contains two parts—body and faceplate for several adapter types and count. Panel has fully metal massive construction for usage in critical environments and can be easily pulled out with no need to be dismantled from the rack. Rear section accommodates cable entry and cable holder that protects cables against damage.

FP-1U

Fiber Optic Patch Panels

PART NO.	DESCRIPTION
FP-1U	Fiber optic patch panel without face plate 1U
FP-12ST-1U	1U face plate for fiber optic patch panel for 12 ST adapters
FP-16ST-1U	1U face plate for fiber optic patch panel for 16 ST adapters
FP-24ST-1U	1U face plate for fiber optic patch panel for 24 ST adapters
FP-12SCD-1U	1U face plate for fiber optic patch panel for 12 duplex SC adapters
FP-16SCD-1U	1U face plate for fiber optic patch panel for 16 duplex SC adapters
FP-24SCD-1U	1U face plate for fiber optic patch panel for 24 duplex SC adapters
BPE-SC-3-01	Blank plate SC duplex

Colour grey RAL 7035



Face plates

Wall Mount Fiber Optic Box

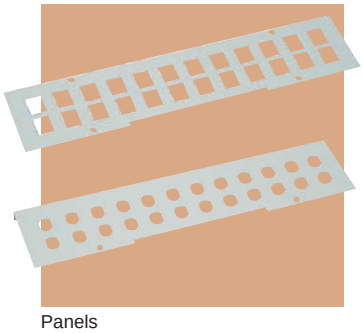
Signamax Wall Mount Fiber Optic Box is used for the direct termination of fibers. The rear section accommodates cable entry and protects against taking out the cables. Box includes two separate sections for fusion splice trays and for routing optical patch cords to the equipment. Box is fitted with two locks with different keys. The Signamax four-rack space fiber optic enclosure contains all of the features of the two-rack space model, but with additional capacity to manage fiber counts up to 144. Cable entry/exit feature utilizes a flexible grommet seal, which is cut at time of installation to accommodate the desired cable diameters for entry and exit points. These grommets provide a dust & debris barrier during and after installation.

RA2-FO-A05

Wall Mount Fiber Optic Box

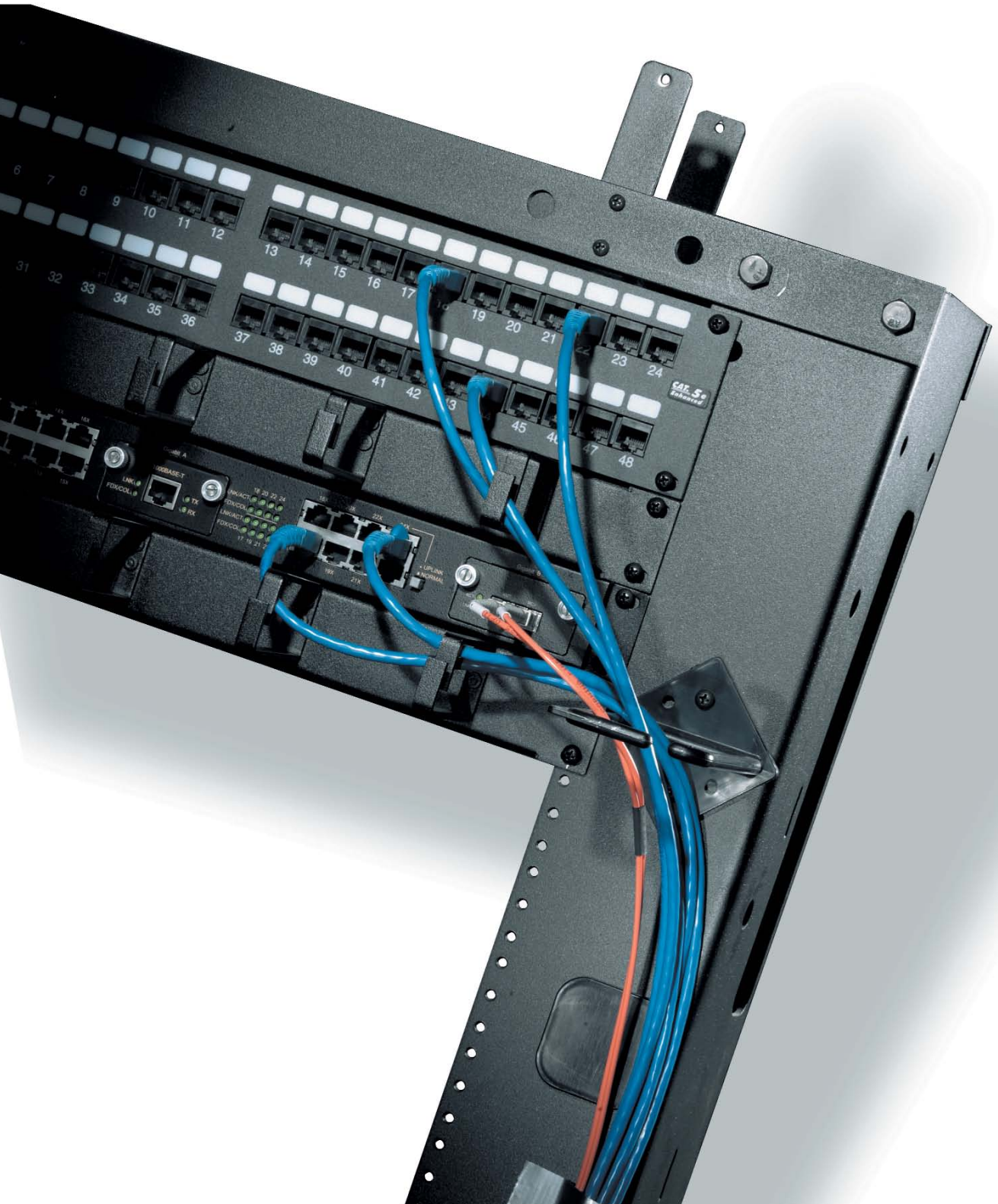
PART NO.	DESCRIPTION
RA2-FO-A05	Wall mounted fiber optic box without accessories
RA-FO-24ST	Panel for RA2-FO-A05 and for 24 ST adapters
RA-FO-24SC	Panel for RA2-FO-A05 and for 24 SC adapters
RA-FO-12ST	Panel for RA2-FO-A05 and for 12 ST adapters
RA-FO-12SC	Panel for RA2-FO-A05 and for 12 SC adapters

Colour grey RAL 7035



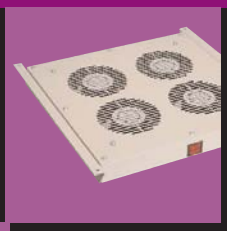
Panels

NETWORK CONNECTIVITY SYSTEMS



SIGNAMAX
CONNECTIVITY SYSTEMS

Data Racks



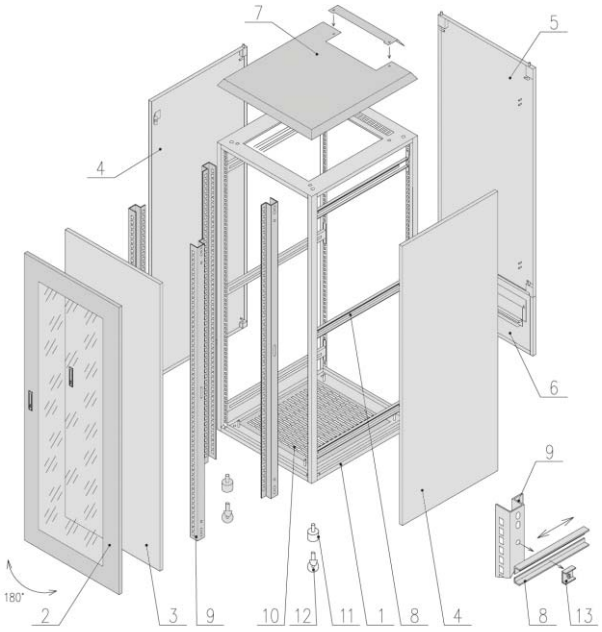
M

- 19" Data Racks
- 19" Server Racks
- 19" Wall Mounted Racks
- 19" Mounted Rack Signamax
- 19" Profile Frames
- 19" Fan Units
- 19" Shelves
- Diode Lighting Unit
- Accessories

19" Data Racks

Attractive design and high quality are hallmarks of these data racks. Their basic framework is welded metal plate, multiple-bent for the strength and rigidity necessary for heavier equipment. All profile moldings are flexible and adjustable. Vent slots in the upper or lower cabinetry allow airflow for efficient cooling. The door is made of safety glass, and can be mounted for either left or right-hand opening on either the front or rear of the data rack. The side-walls and door are assembled and provided with ground straps. These data racks can also be interconnected into sets, for larger switch or server rooms.

1. Skeleton
2. Glass door (right-or left-hand) (three-point bar locking)
3. Flush door (upon request only) (right-or left-hand) (three-point bar locking)
4. Side cover
5. Rear cover (right-or left-hand) (three-point bar locking)
6. Cable opening
7. Ceiling cover
8. Cross bar
9. 19" Frame
10. Filter (both in the bottom and the ceiling)
11. Adjustable feet
12. Travel wheels (upon request only)
13. Roof cover



Fan units
Can be mounted in the lower and/or the upper part of the enclosure without effecting available rack space. Dust filter included.

Wheels
Four wheels, two of which are adjustable. (available on request)

Supply includes
4 adjustable feet, Brush insert (foam insert), Door lock including set of 2 keys.

Colour and material
1.4 mm sheet steel, shaded 4 mm safety glass. Grey colour (RAL 7035), black colour (RAL 9005).

Adjustable feet
All feet can be adjusted up to 20 mm to compensate for uneven floors and assure high stability.

Door lock
Adjustable 3-point lock on the front door.

Front and side access
The door and sidewalls can be easily removed.

Cable entry
Via the slot in the lower back side and through the top of the rack, either through brushes or gasket foam. Entry from the top of the rack is available on special request.

Profile moldings
Four profile moldings are easily adjustable.

19" Data Racks

PART NO.	DESCRIPTION
REC-6156B	19" Rack Signamax, height 15U, width and depth 600 mm
REC-6186B	19" Rack Signamax, height 18U, width and depth 600 mm
REC-6246B	19" Rack Signamax, height 24U, width and depth 600 mm
REC-6286B	19" Rack Signamax, height 28U, width and depth 600 mm
REC-6326B	19" Rack Signamax, height 32U, width and depth 600 mm
REC-6386B	19" Rack Signamax, height 38U, width and depth 600 mm
REC-6426B	19" Rack Signamax, height 42U, width and depth 600 mm
REC-6456B	19" Rack Signamax, height 45U, width and depth 600 mm

PART NO.	DESCRIPTION
REC-6288B	19" Rack Signamax, height 28U, width 600 mm, depth 800 mm
REC-6328B	19" Rack Signamax, height 32U, width 600 mm, depth 800 mm
REC-6388B	19" Rack Signamax, height 38U, width 600 mm, depth 800 mm
REC-6428B	19" Rack Signamax, height 42U, width 600 mm, depth 800 mm
REC-6458B	19" Rack Signamax, height 45U, width 600 mm, depth 800 mm

PART NO.	DESCRIPTION
REC-8288B	19" Rack Signamax, height 28U, width and depth 800 mm
REC-8328B	19" Rack Signamax, height 32U, width and depth 800 mm
REC-8388B	19" Rack Signamax, height 38U, width and depth 800 mm
REC-8428B	19" Rack Signamax, height 42U, width and depth 800 mm
REC-8458B	19" Rack Signamax, height 45U, width and depth 800 mm

PART NO.	DESCRIPTION
REC-6421B	19" Rack Signamax, height 42U, width 600 mm and depth 1,000
REC-8421B	19" Rack Signamax, height 42U, width 800 mm and depth 1,000

PART NO.	DESCRIPTION
REC-8286B	19" Rack Signamax, height 28U, width 800 mm, depth 600 mm
REC-8326B	19" Rack Signamax, height 32U, width 800 mm, depth 600 mm
REC-8386B	19" Rack Signamax, height 38U, width 800 mm, depth 600 mm
REC-8426B	19" Rack Signamax, height 42U, width 800 mm, depth 600 mm
REC-8456B	19" Rack Signamax, height 45U, width 800 mm, depth 600 mm

Side wall hinge

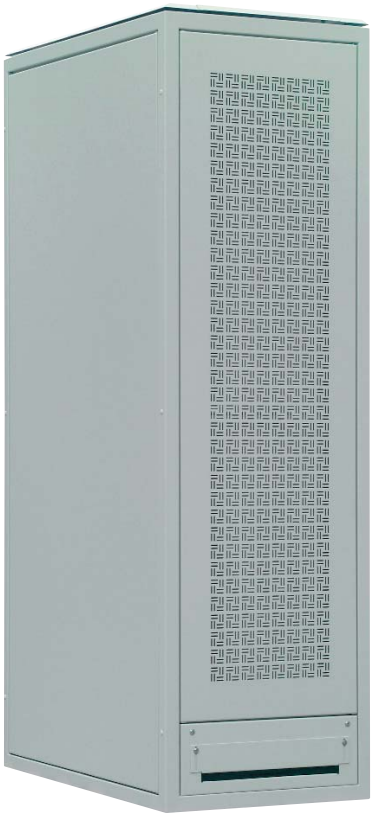
Bottom part with ground straps

Metal handle

Door hold

19" Server Racks

Signamax 19" Server Racks are especially suitable for server instalation, but all other 19" components and accessories can be installed as well. Back of the rack is perforated and allows higer air flow. All other attributes are identical with regular Signamax 19" Data Racks (see page M1).



19" Server Racks

PART NO.	DESCRIPTION
RECS-6421B	19" Server Rack Signamax, height 42U, width 600 mm, depth 1000 mm, bottom end top cable entry
RECS-8421B	19" Server Rack Signamax, height 42U, width 800 mm, depth 1000 mm, bottom end top cable entry

19" Wall Mounted Racks

Vent slots in the upper and lower part of the Signamax Wall Mounted Data Rack allow sufficient airflow inside. Can be mounted upside-down, enabling the door to be opened from the left or right. Wall section can be directly hinged on the wall or by means of a fixed frame. Front door is made of safety glass. The rack is lockable. Center section lock system can be unlocked separately.

19" Wall Mounted Racks – not divided

PART NO.	DESCRIPTION
RECW-044B	Signamax 19" Wall Mounted Rack, height 4U, depth 400 mm
RECW-064B	Signamax 19" Wall Mounted Rack, height 6U, depth 400 mm
RECW-094B	Signamax 19" Wall Mounted Rack, height 9U, depth 400 mm
RECW-124B	Signamax 19" Wall Mounted Rack, height 12U, depth 400 mm
RECW-154B	Signamax 19" Wall Mounted Rack, height 15U, depth 400 mm
RECW-184B	Signamax 19" Wall Mounted Rack, height 18U, depth 400 mm
RECW-214B	Signamax 19" Wall Mounted Rack, height 21U, depth 400 mm

19" Wall mounted racks – divided

PART NO.	DESCRIPTION
RECW-065B	Signamax 19" Wall Mounted Rack, height 6U, depth 500 mm
RECW-095B	Signamax 19" Wall Mounted Rack, height 9U, depth 500 mm
RECW-125B	Signamax 19" Wall Mounted Rack, height 12U, depth 500 mm
RECW-155B	Signamax 19" Wall Mounted Rack, height 15U, depth 500 mm
RECW-185B	Signamax 19" Wall Mounted Rack, height 18U, depth 500 mm
RECW-215B	Signamax 19" Wall Mounted Rack, height 21U, depth 500 mm

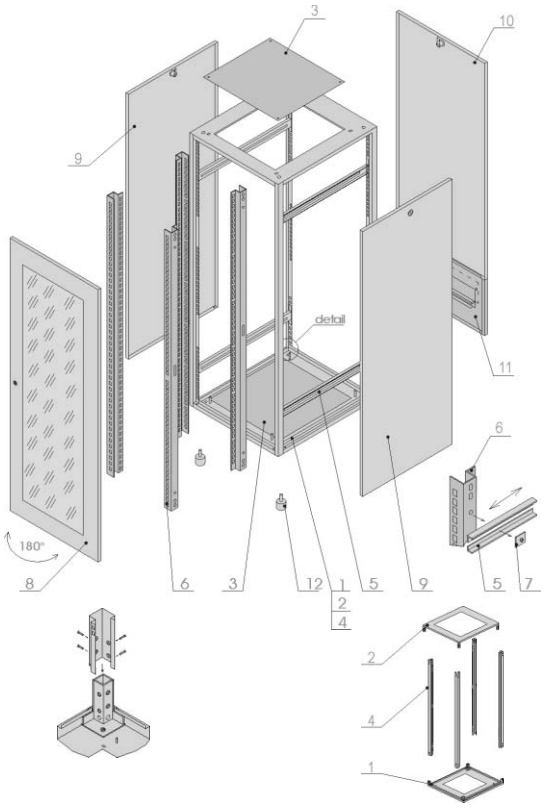
Cable entry: From the top, bottom or the back of the data rack.
Ground strap: Four ground straps are mounted.
Colour and Material:
RAL 7035,1.4 mm sheet steel, shaded 4 mm safety glass. Black colour (RAL 9005) available on request.

19" Assembled Data Rack

The Signamax Assembled Rack is suitable for installation of structured cabling components—e.g. patch panels, active equipment and telecommunication cabling components. The design of the rack is accommodated to fit most computing and data centers.

Rack Description

This 19" Assembled Data Rack consists of assembled skeleton. The front side door is mounted using three hinges and secured by 1-point lock. The safety glass used in the door assembly provides high safety. The removable back and side covers are locked and can be opened with a key that is provided with the rack. The cable entry is located under the back cover. The side and back covers are swappable. In the bottom and ceiling, slots for optional fan installation are provided. These racks can be attached together to form groups. The surface is treated with pulverized color for internal environment (for external environment on request only) according to RAL color scale.
Standard color is grey (RAL 7035) and black (RAL 9005).



Standard package contains:

1. Bottom
2. Ceiling
3. Ceiling and Bottom Cover
4. Bars
5. Cross Bar
6. 19" Frame
7. Guide
8. Glass Door(right- or left-hand)
9. Side Cover
10. Rear Cover
11. Cable Entry
12. Adjustable Feet

Non-standard components (on request only)

Full Door
Perforated Door
Perforated Side Cover
Perforated Back Cover
Travel Wheels

Table of standard Rack dimensions

PART NO.	DESCRIPTION
RECA-6156B	19" Assembled Signamax Rack, height 15U, depth and width 600 mm
RECA-6186B	19" Assembled Signamax Rack, height 18U, depth and width 600 mm
RECA-6246B	19" Assembled Signamax Rack, height 24U, depth and width 600 mm
RECA-6286B	19" Assembled Signamax Rack, height 28U, depth and width 600 mm
RECA-6326B	19" Assembled Signamax Rack, height 32U, depth and width 600 mm
RECA-6386B	19" Assembled Signamax Rack, height 38U, depth and width 600 mm
RECA-6426B	19" Assembled Signamax Rack, height 42U, depth and width 600 mm
RECA-6456B	19" Assembled Signamax Rack, height 45U, depth and width 600 mm
RECA-6288B	19" Assembled Signamax Rack, height 28U, depth 800 mm, width 600 mm
RECA-6328B	19" Assembled Signamax Rack, height 32U, depth 800 mm, width 600 mm
RECA-6388B	19" Assembled Signamax Rack, height 38U, depth 800 mm, width 600 mm
RECA-6428B	19" Assembled Signamax Rack, height 42U, depth 800 mm, width 600 mm
RECA-6458B	19" Assembled Signamax Rack, height 45U, depth 800 mm, width 600 mm
RECA-8288B	19" Assembled Signamax Rack, height 28U, depth and width 800 mm
RECA-8328B	19" Assembled Signamax Rack, height 32U, depth and width 800 mm
RECA-8388B	19" Assembled Signamax Rack, height 38U, depth and width 800 mm
RECA-8428B	19" Assembled Signamax Rack, height 42U, depth and width 800 mm
RECA-8458B	19" Assembled Signamax Rack, height 45U, depth and width 800 mm
RECA-8286B	19" Assembled Signamax Rack, height 28U, depth 600 mm, width 800 mm
RECA-8326B	19" Assembled Signamax Rack, height 32U, depth 600 mm, width 800 mm
RECA-8386B	19" Assembled Signamax Rack, height 38U, depth 600 mm, width 800 mm
RECA-8426B	19" Assembled Signamax Rack, height 42U, depth 600 mm, width 800 mm
RECA-8456B	19" Assembled Signamax Rack, height 45U, depth 600 mm, width 800 mm
RECA-6421B	19" Assembled Signamax Rack, height 42U, depth 1,000, width 600 mm
RECA-8421B	19" Assembled Signamax Rack, height 42U, depth 1,000, width 800 mm

Skeleton detail – inside assembly

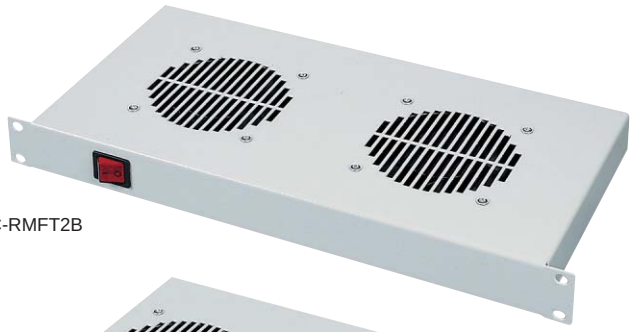
1-point door lock

Skeleton detail – outside assembly

19" Fan Units

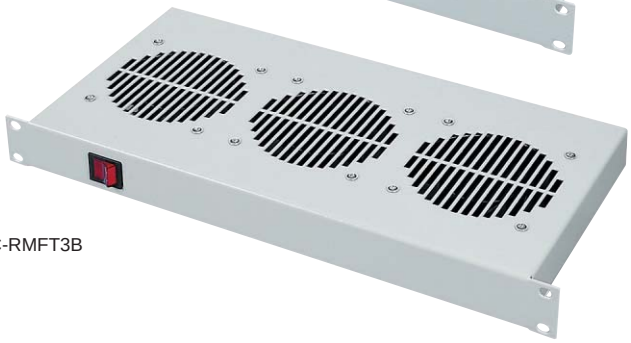
Signamax 19" Fan Units are constructed to fit into all Signamax 19" Data Racks, to provide forced airflow inside. Fits in lower as well as in the upper part of the rack. Standard and recommended installation is in the lower part of the rack to ensure a proper "chimney-effect", which supplies the rack with fresh air. Fan units allow airflow of up to 160 m³/hour. All fan units are equipped with a thermostat to regulate the airflow for temperatures in the range of 0° to 60°C. Fan units can be deactivated by using the main switch.

REC-RMFT150B



REC-RMFT2B

REC-RMFT3B-IN



REC-RMFT3B

REC-RMFT30B

19" Fan Units with Thermostat

PART NO.	DESCRIPTION
REC-RMFT2B-IN	19" Fan unit 2x fan with inbuild thermostat
REC-RMFT3B-IN	19" Fan unit 3x fan with inbuild thermostat
REC-RMFT30B	Side wall Fan unit 3x fan
REC-RMFT70B	Lower/Upper Fan unit 2x fan
REC-RMFT150B	Lower/Upper Fan unit 4x fan

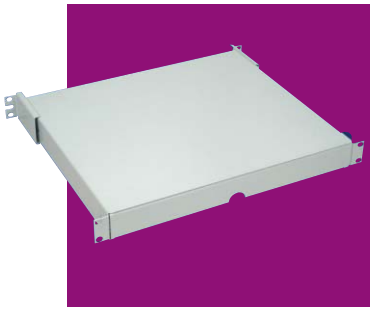
Colour grey (RAL 7035). Black (RAL 9005) available on request.

19" Shelves

Signamax shelves for keyboard, documentation and LCD monitor are designed for the installation into the 19" data rack profiles. Shelves with lockable drawers for safe stowage of service documentation and shelves with an integrated computer keyboard and monitor occupy the space of 1U. This gives you more room in the data rack.

Documentation shelf opened

Keyboard shelf opened



Keyboard shelf closed

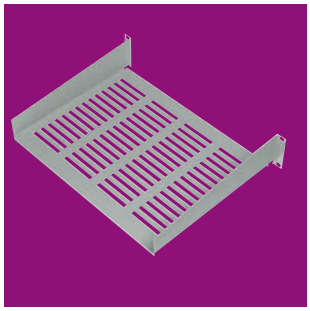
Keyboard and documentation shelves

PART NO.	DESCRIPTION
REC-SV-DOC	1U documentation shelf with lock
REC-SV-KB	Keyboard shelf 1U
REC-SV-KBM	Shelf for keyboard and LCD monitor, 1U

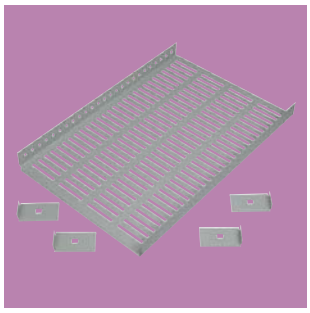
Colour grey (RAL 7035). Black (RAL 9005) available on request.

19" Shelves

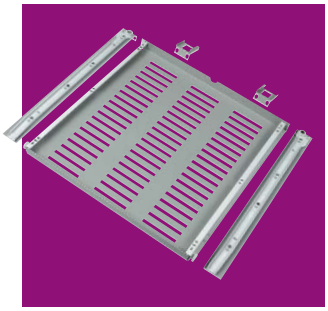
Signamax 19" shelves are convenient for equipment not designed for 19" installations. Our product range includes shelves for fixed and drawer-style installations. Drawer-style system enables easier access to the equipment being used. Ventilated bottom assures cooling airflow to the equipment. Shelf supports and mounting brackets are included. Fixed shelves are available in depths from 150 mm to 550 mm. Sliding shelves are available in depths from 250 mm to 450 mm.



REC-SV15B



REC-SV35B



REC-TSV45B

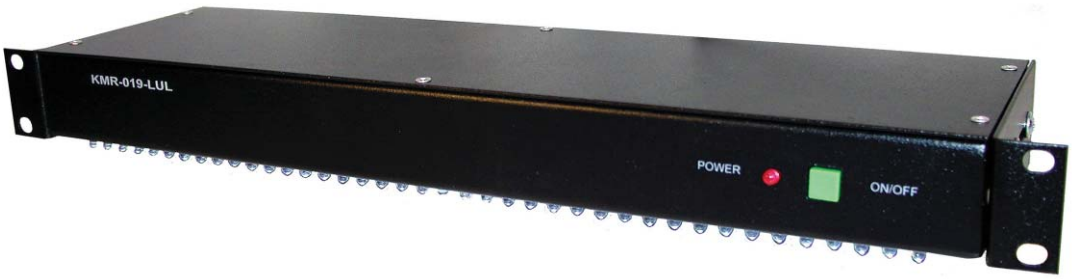
19" Shelves

PART NO.	DESCRIPTION
REC-SV15B	Shelf, 150 mm depth, 1U
REC-SV25B	Shelf, 250 mm depth, 1U
REC-SV35B	Shelf, 350 mm depth, 1U
REC-SV45B	Shelf, 450 mm depth, 1U
REC-SV55B	Shelf, 550 mm depth, 1U
REC-SV65B	Shelf, 650 mm depth, 1U
REC-TSV25B	Drawer-style Shelf, 250 mm depth, 1U
REC-TSV35B	Drawer-style Shelf, 350 mm depth, 1U
REC-TSV45B	Drawer-style Shelf, 450 mm depth, 1U

Colour grey (RAL 7035). Black (RAL 9005) available on request.

19" Diode Lighting Unit

The 19" diode lighting unit is constructed as a compact fixture designed for installation into 19" distribution board frames for illumination of equipment installed within distribution board. The ON/OFF pushbutton and the LED-signaling that indicates On/Off state are located on the face of the unit. The rear side is equipped with a socket for power feed. The underside of the unit is fitted with the line of LED—i.e. the light is directed downwards. The unit is movable in its holders forward or backward in order to set the optimal illumination direction.



Diode Lighting Unit

PART NO.	DESCRIPTION
REC-LU-LED-BK	Diode Lighting Unit 1U black, RAL 9005
REC-LU-LED	Diode Lighting Unit 1U grey, RAL 7035

MAIN CHARACTERISTICS

- **High illuminating power**
- **Low electric power consumption**
- **Long lifespan**
- **Very low heat radiation**

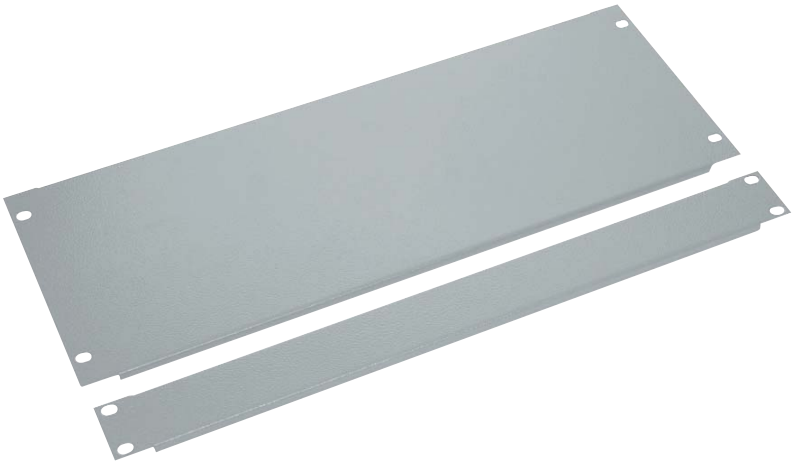
TECHNICAL DATA

Dimensions (W x H x D): 483 x 44 x 125 mm
Mass: 3 kg without connecting cable
Voltage system: 1NPE, 230 V, 50/60 Hz, TN-S
Current: 0.06 A maximum
Power supply: 15 W maximum

Accessories

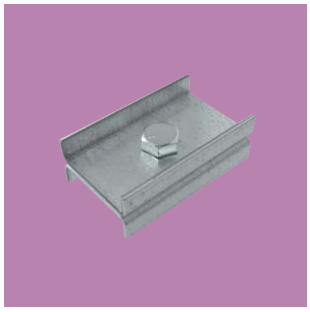
These base frames are suitable for all Signamax data racks and are used for fixing the rack to the floor to assure stability. Cable inlets placed on each side of the base are covered by a filter grid. Filter grid can be removed to insert cables inside. Adjustable feet for 19" Data racks are to compensate for uneven floors and to assure high stability.

REC-RB-66BF



REC-CB

REC-LU



REC-CCK

Blanking panels

PART NO.	DESCRIPTION
EPP-BL1	Blank panel 1U, RAL 7035
EPP-BL2	Blank panel 2U, RAL 7035
EPP-BL3	Blank panel 3U, RAL 7035
EPP-BL4	Blank panel 4U, RAL 7035
EPP-BL6	Blank panel 6U, RAL 7035

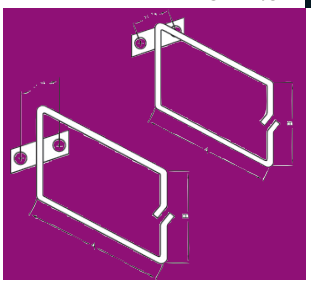
Base frames

PART NO.	DESCRIPTION
REC-RB-66BF	Signamax Rack Base Frame, 600 x 600 x 100 mm, 4 filters, RAL 7035
REC-RB-68BF	Signamax Rack Base Frame, 600 x 800 x 100 mm, 4 filters, RAL 7035
REC-RB-88BF	Signamax Rack Base Frame, 800 x 800 x 100 mm, 4 filters, RAL 7035
REC-RB-66-20	Signamax Rack Base Frame, 600 x 600 x 200 mm, 4 filters, RAL 7035
REC-RB-88-20	Signamax Rack Base Frame, 800 x 800 x 200 mm, 4 filters, RAL 7035
REC-FPFP-4	Mounting Kit M5 4pcs set
REC-FPFP-20	Mounting Kit M5 20pcs set
REC-FPFP-50	Mounting Kit M5 50pcs set
REC-LU	19" Light unit, 1U, 3 halogen lights, black colour
REC-MLU	Lighting unit, fluorescent, mounting by magnet, grey RAL 7035
REC-CB	Signamax Racks Wheels, set of 4 pieces
REC-CCK	Racks connecting kit (incl. screws and nuts)
REC-LOCK	Half cylinder for the plastic lock

Accessories

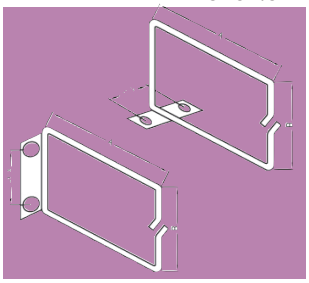
Ring brackets are used for organizing cables inside of the enclosure. Cables are organized by vertical or horizontal organizer brackets. Two mounting sets allow multiple placement possibilities within the data rack. Metal brackets have a polished surface texture. 19" cable organizer with 5 plastic rings and side protection is designed for easy and fast management of patch cords and other cables.

EPCM1-4/8



EPCM2-4/8

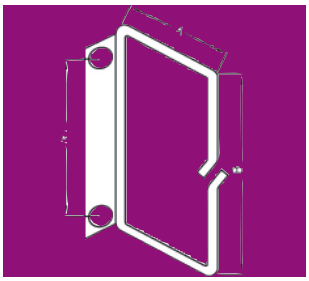
EPCM3-4/8



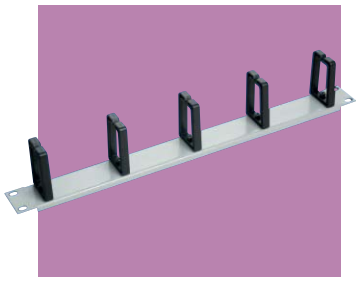
EPCM4-4/8

Cable Management Ring Brackets

PART NO.	DESCRIPTION	A	B
EPCM1-4/4	Cable management bracket 40 x 40 mm	40	40
EPCM1-4/8	Cable management bracket 40 x 80 mm	80	40
EPCM1-8/8	Cable management bracket 80 x 80 mm	80	80
EPCM2-4/4	Cable management bracket 40 x 40 mm	40	40
EPCM2-4/8	Cable management bracket 40 x 80 mm	80	40
EPCM2-8/8	Cable management bracket 80 x 80 mm	80	80
EPCM3-4/4	Cable management bracket 40 x 40 mm	40	40
EPCM3-4/8	Cable management bracket 40 x 80 mm	80	40
EPCM3-8/8	Cable management bracket 80 x 80 mm	80	80
EPCM4-4/4	Cable management bracket 40 x 40 mm	40	40
EPCM4-4/8	Cable management bracket 40 x 80 mm	80	40
EPCM5-8/4	Cable management bracket 80 x 40 mm	40	80
EPCM5-8/8	Cable management bracket 80 x 80 mm	80	80



EPCM5-4/8

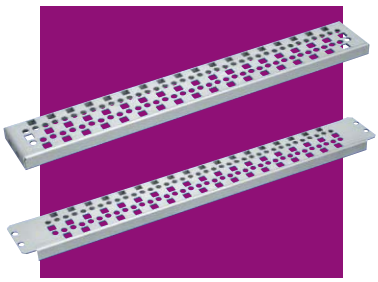


REC-VP1

Cable Organizer

PART NO.	DESCRIPTION
EC-VP1	Cable oranizer 1U, with plastic rings, grey
REC-MCO-S60	Multi cable organizer, side mounting, 600 mm, RAL 7035
REC-MCO-S80	Multi cable organizer, side mounting, 800 mm, RAL 7035
REC-MCO-S100	Multi cable organizer, side mounting, 1000 mm, RAL 7035
REC-MCO-F60	Multi cable organizer, front mounting, 600 mm, RAL 7035
REC-MCO-F80	Multi cable organizer, front mounting, 800 mm, RAL 7035
REC-MCO-F100	Multi cable organizer, front mounting, 1000 mm, RAL 7035

REC-MCO-F60



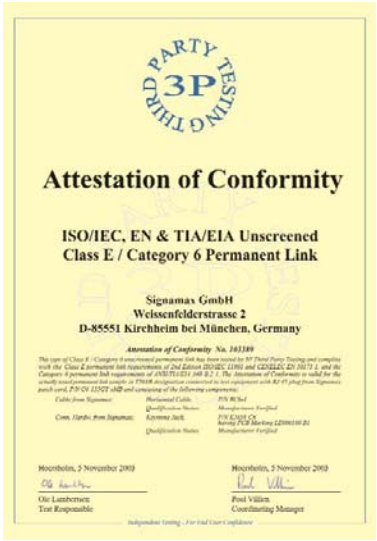
REC-MCO-S60

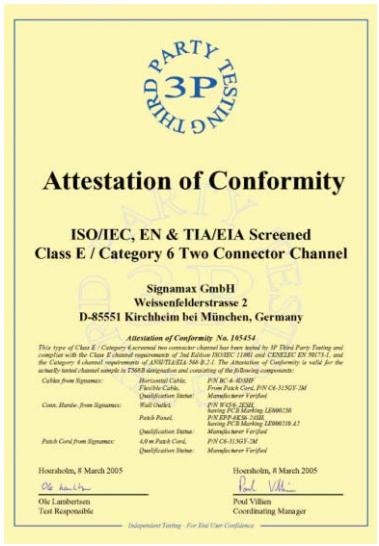
NOTES

Certificates

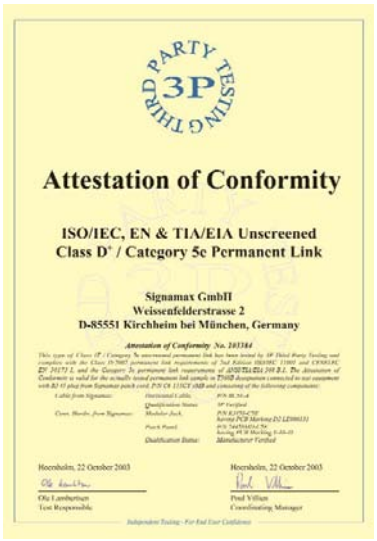
Signamax Connectivity Systems are certified by independent testing laboratories. Bellow you can find the certificates that Signamax obtained from Third Party Testing laboratory (also known as 3P) for Category 5e Unscreened, Category 5e Screened, Category 6 Unscreened, and Category 6 Screened products.
All certificates can also be downloaded at our Signamax web page www.signamax-eu.com.

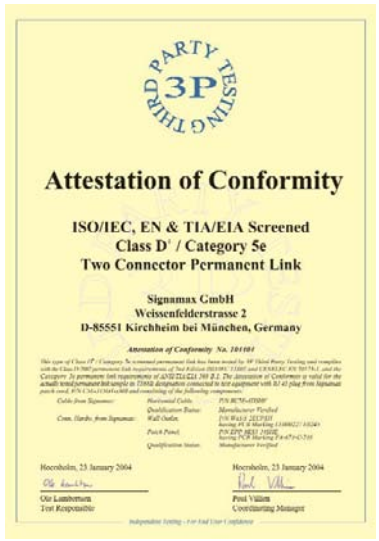
Category 6





Category 5e





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